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**EVALUATION OF THE GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION
SEVENTH SEMI-ANNUAL PROGRESS REPORT**

January 28, 1993

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EXECUTIVE SUMMARY

Congress charged the Health Care Financing Administration (HCFA) with implementing a program of Rural Health Care Transition (RHCT) grants (Omnibus Budget Reconciliation Act of 1987: P.L. 100-203) and expanding the program (Omnibus Budget Reconciliation Act of 1989: P.L. 101-239). The goal of this program is to help small rural hospitals improve their financial stability and management capacity.

The program was implemented in September 1989 and expanded in September 1990, September 1991, and September 1992. Since the program began, 746 RHCT grants have been awarded to 684 small rural hospitals: 184 in 1989, 212 in 1990, 187 in 1991, and 163 in 1992. More than one-third of such hospitals in the United States have received grants.

The 1989 grantees completed their 3-year grant projects in September 1992. Although the vast majority of the remaining grantees (562) have 3-year grants and are progressing with their projects, 2 have completed their projects, 21 gave up their grants (7 because their hospitals closed), and 20 were reclassified as urban for Medicare prospective payment purposes, making them ineligible to continue in the grant program.

The legislation mandated that the HCFA administrator report to Congress every 6 months on the progress of the program. This is the seventh semi-annual progress report. In it, we describe the progress of the 1990 grantees after 24 months and the 1991 grantees after 9 months. This information is based on monitoring reports submitted by the 1990 grantees covering the 6-month period from March 31, 1992, through September 30, 1992, and by the 1991 grantees for the 6-month period from December 31, 1991, to June 30, 1992. We also focus on several special topics: a comparison of the size, management, staffing, and finances of the 1991 grantees and earlier grantees at award; a comparison of the area characteristics of the new 1992 grantees and earlier grantees; a discussion of changes in management, staffing and service availability in the first grant year of the 1990 grantees; and detail on hospital closings among the 1990 grantees after 2 years. A final report on the 1989 grantees, evaluating the grant program's impacts on hospital finances and management, is being submitted separately.

Grantee Status

The status of many grantees changed during the last 6 months. The 1989 grantees completed their third and last grant year. In addition, 20 hospitals left the grant program after being reclassified as urban hospitals. The status of 1989, 1990, 1991, and 1992 grantees as of September 30 1992, is illustrated by the following:

STATUS OF 1989, 1990, 1991, AND 1992 GRANTEES AS OF SEPTEMBER 30, 1992

Status	1989	1990	1991	1992
Months since Award	36	24	12	0
Continuing	0	181	172	163
Completed	174	2	0	0
Voluntarily Terminated Grant	5	11	3	0
Grant Terminated by HCFA	1	0	3	0
Hospital Closed and Terminated ^a	4	5	2	0
Reclassified as Urban	0	13	7	0
Total Awards	184	212	187	163

^aAdditional hospitals closed and continued in the grant program.

1990 Grantee Progress After 2 Years

Progress. The 1990 grantees' projects have been operational for 2 years. This long operational period has allowed grantees to make substantial progress, even with projects that originally fell behind schedule. The 1990 grantees have used their RHCT grant funds to implement or upgrade 278 patient services, complete 40 market analyses, and finish 23 construction or renovation activities.

Grantees reported on the number of patients using the 278 patient services implemented. Nearly 54,000 patients per month who would otherwise have had to travel for the services or done without now receive services from a local hospital.

More than 50 percent of the patient services implemented were outpatient services, 7 percent were transportation services, 4 percent were inpatient services, and the remainder were well-patient and social services. The most frequently implemented outpatient services were diagnostic services, home health agencies and hospices, and rural health clinics. The majority of the inpatient projects (5 out of 10) developed nursing home services.

The 1990 grantees implemented transportation and well patient services sooner than inpatient or outpatient services. Three-quarters of the transportation projects and 65 percent of the well patient projects were implemented within 18 months after award receipt, whereas 45 percent of the outpatient and 60 percent of the inpatient projects took more than 18 months to implement. Transportation and well patient projects are probably implemented

more quickly because of lower resource requirements and lack of regulatory standards to be complied with.

One goal of the RHCT grant program evaluation is to determine how grantees achieve success. Other rural hospitals will be able to learn from and replicate the grantees' projects if they know what factors were important for success, what problems were encountered, and how these problems were surmounted.

The 1990 grantees cited two key reasons for successful implementation. The first was the availability of funds--in particular, RHCT grant funds. The second key factor was dedicated project staff.

The 1990 grantees reported only a few problems that are still impeding their projects. Three persistent problems are professional recruitment and retention difficulties (25 percent), operational and administrative problems (22 percent), and funding difficulties (13 percent). The hospitals attribute their inability to attract health professionals to the small supply of these professionals willing to locate in rural areas. In addition, retaining health care administrators remains a problem, although administrative turnover has not halted grant project progress to the same degree as in earlier stages of the grant program. A few hospitals have delayed implementation because their projects depended on supplemental funds they have not been able to raise during the economic recession.

Changes in Management, Staffing, and Services. These hospitals had significant changes in administrators and physician availability yet were able to introduce a host of new outpatient services.

Administrator change is common among small rural hospitals. During the 18 months after they applied for grants, 30 percent of the 1990 grantees had one or more administrator changes. Furthermore, 4 percent added management contracts and 1 percent dropped them during the first grant year. Only a few grantees joined or left a multi-hospital system (1 percent and 2 percent, respectively).

The grantees on average had a small net increase (0.23) in the number of physicians on staff during the first year. However, 55 percent recruited physicians, 49 percent lost physicians, and only 32 percent had a net increase in physicians.

A large majority of the grantees added new services or augmented existing ones during the first year (85 percent), 3 times more than dropped a service; 53 percent added outpatient services (especially specialty clinics in ophthalmology, cardiology, and orthopedics), and 36 percent added or enhanced an inpatient service (especially general surgery and internal medicine). The most commonly dropped service was obstetrics and gynecology (just as we found with the 1989 grantees).

Closures. During the first 2 years of the grant program, six 1990 grantee hospitals closed (an annualized closure rate of 1.4 percent, a little lower than that experienced by the 1989 grantees). Of the closures, only one continued to provide any type of patient service, although the others were considering opening other types of health care facilities. The key reasons for these closures were low occupancy, brought about by sudden physician losses and strong competition from nearby hospitals. All of the hospitals that closed were within 30 minutes travel time of another hospital.

1991 Grantee Characteristics and Progress After 9 Months

Progress. After 3 months, all the 1991 grantees had started their projects. After 9 months, the majority were on schedule. Even at this early date, grantees have completed some activities, especially those over which they have a high degree of control, such as equipment purchases (31 percent have completed this activity). But one-fourth have also completed construction activities. Despite the progress made, the grantees reported being behind schedule in some activities, especially recruiting health professionals and establishing some new services--such as swing beds.

We interviewed administrators of 20 hospitals that had high physician losses in the last 6 months to see what effects it had on hospital functioning. These 20 hospitals had lost 23 physicians--16 moved away, 5 retired, and 2 died suddenly. Even though 13 of these losses were expected, the grantees found that it took on average 9 months to recruit a new physician. Loss of physicians caused financial problems for some grantees because of the immediate reduction in inpatient admissions. Because access to physician care was reduced, patients had to go elsewhere for services.

These 20 hospitals also had a far higher rate of administrator change in the last 6 months (35 percent, or 7 hospitals) than the average 1991 grantee (18 percent). In two of these hospitals, the new administrators were so busy recruiting physicians that the RHCT grant projects fell behind schedule.

Management, Staffing and Finances at Award. Management characteristics of the 1991 grantees and earlier grantees were similar: 20 percent were in multi-hospital systems and 27 percent were managed under contract. But more were owned publicly (56 percent). This difference is likely due to the increase in frontier hospitals (those in counties with six or fewer persons per square mile) in the program since 1989, more of which are publicly owned.

Again, like earlier grantees, the 1991 grantees were very small hospitals, of which about 80 percent had 50 or fewer acute care beds. They also had low occupancy (median of 25 percent), even lower than earlier grantees, perhaps because of the higher proportion of frontier hospitals. Consistent with this lower occupancy, they had fewer physicians on staff

(8.9) than earlier grantees but were recruiting more. The low occupancy rate translated into lower revenues in the year before the grant was received (\$1 million lower than the 1989 grantees), although both sets of grantees had similar debt burden and operating losses.

1992 Grantee Solicitation

In 1992 HCFA received 310 grant applications from 387 hospitals (103 organized into 26 consortia) from hospitals in 44 states and Puerto Rico.

The applicants were located in scarcely populated areas (20 persons per square mile) with a high proportion of elderly residents (14.5 percent), populations that were 91 percent white, and an annual per capita income of \$11,382. More than half of the areas were designated as Primary Care Health Professional Shortage areas. The applicant hospitals' areas differed from the areas of all eligible hospitals nationwide in several respects. Applicant hospitals were in more scarcely populated areas (20 persons per square mile compared to 25 per square mile), and they had smaller black populations (5.4 percent compared to 6.8 percent). These differences are largely a result of the low application rate from hospitals in the South (only 14 percent of eligible hospitals).

Grantees were selected on the basis of merit and with an eye toward equitable geographic distribution across states. On September 30, 1992, HCFA awarded \$6,855,659 to 163 hospitals. Twenty-nine percent of 1992 grantees are in consortia, a higher rate than in 1989 but comparable to 1990 and 1991 grantees.

Compared to earlier grantees, the 1992 grantees are located in less densely populated areas (30 percent in frontier areas compared to 23 percent in 1991 and 14 percent in 1989). They also have smaller black populations and fewer persons over 65 years old. These differences are attributable to the shift in grantees away from the South and the Northeast to the Midwest and West Census regions.

I. INTRODUCTION

A. LEGISLATIVE HISTORY AND PURPOSE OF THE GRANT PROGRAM

Congressional concerns about the financial and operational viability of rural hospitals and the access of rural residents to health care led to the enactment of the Grant Program for Rural Health Care Transition. In the legislation, Congress mandated that the Health Care Financing Administration (HCFA) "establish a program of grants to assist eligible small rural hospitals and their communities in the planning and implementation of projects to modify the type and extent of services such hospitals provide in order to adjust for one or more of the following factors:

- (1) Changes in clinical practice patterns
- (2) Changes in service populations
- (3) Declining demand for acute-care inpatient hospital capacity
- (4) Declining ability to provide appropriate staffing for inpatient hospitals
- (5) Increasing demand for ambulatory and emergency services
- (6) Increasing demand for appropriate integration of community health services
- (7) The need for adequate access to emergency care and inpatient care in areas in which a number of underutilized hospital beds are being eliminated . . .

Each demonstration project . . . shall demonstrate methods of strengthening the financial and managerial capability of the hospitals involved to provide necessary services."¹ Furthermore, the legislation mandated reports on grantee progress every 6 months.²

The legislation further stipulated that "a grant may not exceed \$50,000 a year and may not exceed a term of two years."³ Funds could be spent for any expense incurred in planning and implementing the project, with two exceptions: no part of the grant funds could be used to retire debt incurred before the grant award, and no more than one-third of the grant funds could be used to cover capital-related costs. To be eligible for a grant, a hospital had to be a non-Federal, non-proprietary, short-term, general acute care hospital with fewer than 100 beds and had to be classified as a rural hospital under Medicare's Prospective Payment System.⁴

In the Omnibus Budget Reconciliation Act of 1989 (P.L. 101-239), Congress enacted two modifications to the Rural Health Care Transition (RHCT) grant program. First, the grant period for hospitals receiving an award after FY 1989 was extended from 2 to 3 years. Second, hospitals that use their grants to convert to rural primary-care hospitals are not limited to the one-third capital expenditure maximum.

¹Omnibus Budget Reconciliation Act of 1987 (P.L. 100-203), Section 4005(e).

²This progress report was prepared by Mathematica Policy Research, Inc., under contracts 500-87-0028-12 and 500-91-0075 to the Health Care Financing Administration.

³Section 4005(e)(6) of the Act.

⁴P.L. 100-203, Sec 4005(e).

The amount of funds appropriated by Congress for the program has varied over the years:

<u>Fiscal Year</u>	<u>Amount</u>
1989	\$8.3 million
1990	\$17.8 million
1991	\$24.4 million
1992	\$23.0 million

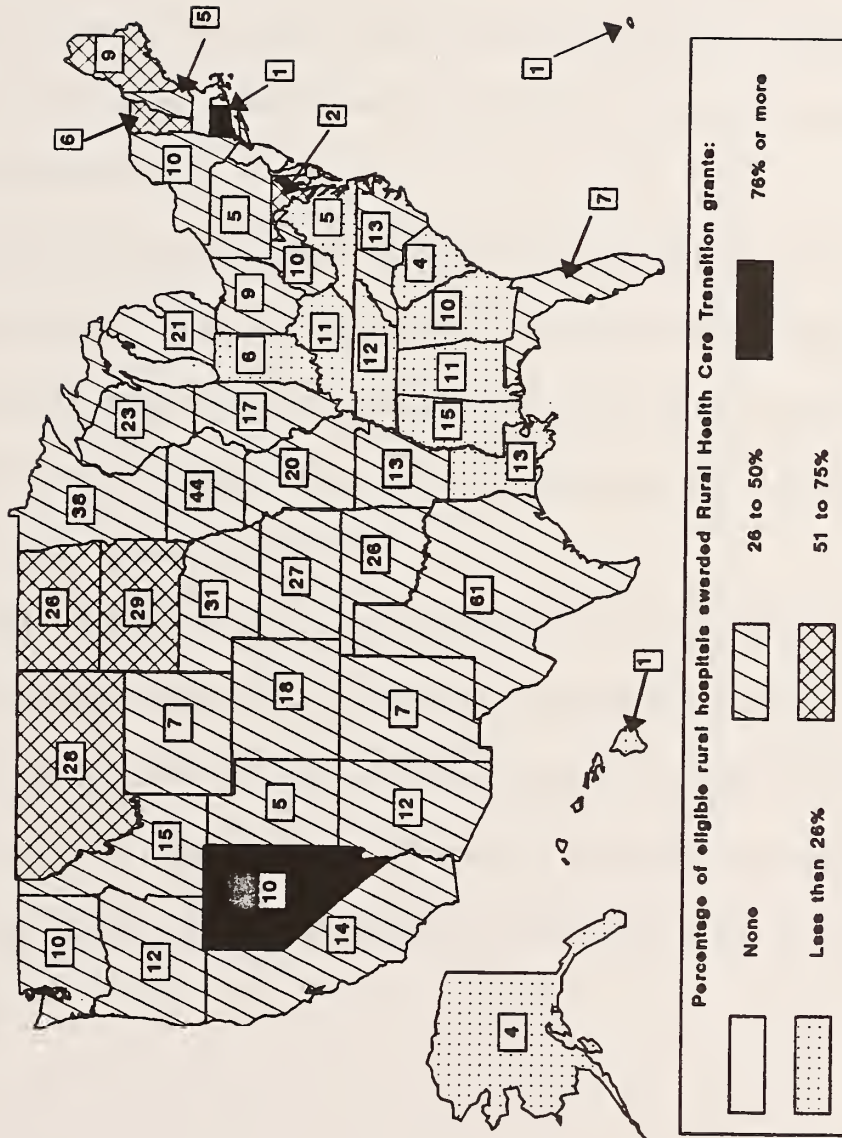
The funds increased from 1989 through 1991 consistent with increases in the number of active grantees each year.

B. THE NUMBER AND DISTRIBUTION OF GRANTEES

HCFA used two criteria to select the RHCT grant recipients: (1) the equitable distribution of funds across states; and (2) reviewers' assessment of the projects' merits. After these criteria were applied, the bulk of the funds was first distributed across states in proportion to the number of eligible hospitals, and awards were then made within each state on the basis of merit. Then the remaining funds were awarded on the basis of merit without regard to state. Under these criteria, a total of 684 hospitals (35 percent of eligible rural hospitals) have participated in the RHCT grant program since its inception in 1989. The state-by-state distribution of the number and percentage of hospitals receiving RHCT grant awards is shown in Figure I.1.⁵

⁵There are currently 1,960 eligible rural hospitals nationwide. In 1991, Connecticut's only eligible hospital received an RHCT grant award. This year the hospital was reclassified as an urban hospital and, consequently, Connecticut currently has no eligible hospitals. We added that hospital back into the list of eligible hospitals, however, to calculate Connecticut's percentage of eligible hospitals awarded a grant since 1989 for Figure I.1.

FIGURE I.1
NUMBER AND PERCENTAGE OF ELIGIBLE HOSPITALS
AWARDED RURAL HEALTH CARE TRANSITION
GRANTS SINCE 1989, BY STATE



As the map shows, Texas has the largest number of hospitals awarded RHCT grants (61), followed by Iowa and Minnesota with 44 and 38 grant recipients, respectively. Because the number of eligible hospitals varies across states, however, the absolute number of winners in these states reflects their share of the eligible hospitals. (Texas ranks first, Minnesota ranks third, and Iowa ranks fourth in number of eligible hospitals.) On the other hand, the percentage of eligible hospitals awarded a grant within a particular state may reflect a more organized effort to pursue grants. In this case, the number of winners will be affected by the number of grant applications.

An analysis of the percentage of eligible hospitals with a grant in each state produces a slightly different picture. States with more than 50 percent of the eligible hospitals participating in the grant program are generally clustered in three areas of the country: New England, the Northern plains, and Nevada. By contrast, states with the lowest program participation rates are located in the South.

These differences suggest that the aggressiveness with which hospitals pursue the RHCT grants may vary by state and region. The impetus for the greater level of effort in some areas is unclear. It may reflect efforts of a State hospital association or a regional management or multi-hospital system. It may also reflect the willingness of hospitals in certain areas to form consortia when applying for an RHCT grant, thereby attracting hospitals that may not have otherwise applied.

C. STATUS OF GRANTEES

The status of many grantees changed during this reporting period. The 1989 grantees completed their third and last grant year. In addition, 20 hospitals left the grant program after being reclassified by HCFA as urban hospitals for Medicare payment purposes.⁶ The hospitals still active in the grant program are listed in Appendices A and B.

1. 1989 Grantees

September 15, 1992, marked the end of the 1989 grantees' 3-year award period. Out of the 184 projects awarded grants in 1989, 145 projects, carried out by 143 hospitals, received funding for all 3 years (see Table I.1).⁷ Of the 39 projects not in the program at the end of the 3-year period, 29 were completed early. Five of these hospitals completed their projects after 1 year (one completed and another four received 1990 grants). Another 24 hospitals completed their projects after 2 years (21 completed their projects and 3 received 1991 grants).

Ten hospitals never finished the program. Four hospitals did not complete because they closed their facilities and withdrew from the program. Five voluntarily withdrew from the

⁶An individual hospital or all the hospitals in a county can apply to the Medicare Geographic Reclassification Review Board to be reclassified from rural to urban with respect to the standardized amount for inpatient operating costs, the wage index value, or both. To be reclassified, the hospital must be in a county adjacent to the urban county it proposes to be classified with, and must provide further evidence of close proximity to the area (unless it is a sole community provider or rural regional referral center) (Commerce Clearing House, 1992, section 412.230, 412.232).

⁷A total of 23 grantees that won grants in 1989 also won grants in 1992. Seventeen of the 143 1989 grantees finishing their projects in the autumn of 1992 received new grants in 1992.

TABLE 1.1
1989 GRANTEE STATUS

	Time Period							Cumulative 9/15/89 - 9/15/92
	At Award 9/15/89	Month 6 3/31/90	Month 12 9/30/90	Month 18 3/31/91	Month 24 9/30/91	Month 30 3/31/92	Month 36 9/15/92	
Number of Grantees (Hospitals) at Start of Period	184 (181)	--	--	--	--	--	--	184 (181)
Number of Voluntary Terminations in Period	2 ^a (2)	0	2 ^b (2)	0	0	1 ^c (1)	0	5 (5)
Number of HCFA Terminations in Period	0	0	1 ^d (1)	0	0	0	0	1 (1)
Number of Hospitals Ceasing Operations and Terminated in Period	0	1 ^e (1)	1 ^f (1)	1 ^g (1)	1 ^h (1)	0	0	4 (4)
Number Completed in Period	0	0	5 ⁱ (4)	0	24 ^j (24)	0 (0)	145 (143)	174 (171)
Number Remaining at End of Period	182 (179)	181 (178)	172 (170)	171 (169)	146 (144)	145 (143)	0 (0)	145 (143)
Other Changes:								
Ceased hospital operations but is still a grantee	1 ^b (1)	2 ^d (2)	1 ^k (1)	0	0	0	0	4 (4)
Changed scope	0	1 ^e (1)	0	0	0	0	0	1 (1)
Other	0	1 ^f (1)	0	0	0	0	0	1 (1)

^aBreckinridge Memorial Hospital, Kentucky
Arkansas Memorial Hospital, Arkansas

^bCaledonia Health Care Center, Minnesota

^cSalamanca District Hospital, New York

^dPresbyterian Family Health Care, New Mexico
St. Mary's Hospital and Home, Minnesota

^ePresbyterian Family Health Care, New Mexico

^fWebster General Hospital, Mississippi

^gRangely District Hospital, Colorado
Wilson Memorial Hospital, Texas

^hCalhoun General Hospital, Florida

ⁱSt. Luke General Hospital, Louisiana

^jGrantees not extending grant funding for second year (five), of which four received 1990 grants:

Churchill Regional Medical Center, Nevada

Elko General Hospital, Nevada

Mt. Grant General Hospital, Nevada

Nye Regional Medical Center, Nevada

Boone County Community Hospital, Nebraska, completed its project in the first year.

^kLaHarpe Hospital Association, Illinois

^lCorning Community Hospital, Arkansas

^mBaxter Memorial Hospital, Kansas

ⁿGrantees not extending grant funding for third year (24), of which 3 received 1991 grants, including:

Putnam County Hospital, Indiana

Helena Regional Medical Center, Arkansas

Odessa Memorial Hospital, Washington

^oMethodist Hospital, South Dakota

program for a variety of reasons. HCFA terminated one hospital for noncompliance with the terms of the grant.

2. 1990 Grantees

Twice the number of grantees left the program in the last 6 months than left in the first 18 months (see Table I.2). After 18 months, 200 of the 211 hospitals awarded grants in 1990 were still active in the program. Since then, however, 20 hospitals have left the program. The departure of these 20 hospitals leaves 180 active hospitals implementing 181 grant projects.

Thirteen of the 20 departing hospitals left the grant program after being reclassified for Medicare payment purposes as urban hospitals. One of the reclassified hospitals has since closed. Another five hospitals voluntarily left the program. Four of them did not apply for third-year funding and the sixth, Colorado-Fayette Medical Center in Texas, opted to use its own funds to complete its project after being awarded a 1992 RHCT grant. Two hospitals in Iowa, Forest City Hospital and Community Memorial Hospital, ceased operations.

3. 1991 Grantees

On September 15, 1991, HCFA awarded RHCT grants to 187 hospitals. One hundred and eighty-three of these hospitals were still active 3 months later. Since then, however, 11 hospitals have left the grant program (see Table I.3).

As with the 1990 grantees, reclassification as an urban hospital accounted for most of the attrition. Seven 1991 grantees were reclassified as urban hospitals. Two hospitals, Walton

TABLE 1.2
1990 GRANTEE STATUS

	Time Period					
	At Award 9/15/90	Month 6 3/31/91	Month 12 9/30/91	Month 18 3/31/92	Month 24 9/30/92	Cumulative 9/15/90 - 9/30/92
Number of Grantees (Hospitals) at Start of Period	212 (211)	--	--	--	--	212 (211)
Number of Voluntary Terminations in Period	2 ^a (2)	0 (0)	4 ^b (4)	0	5 ^f (5)	11 (11)
Number of HCFA Terminations in Period	0	0	0	0	0	0
Number of Hospitals Ceasing Operations and Terminated in Period	0	0	2 ^c (2)	1 ^e (1)	2 ^g (2)	5 (5)
Number Completed in Period	0	0	2 ^d (2)	0	0	2 (2)
Number Reclassified as Urban Under Medicare	0	0	0	0	13 ^h (13)	13 (13)
Number Remaining at End of Period	210 (209)	210 (209)	202 (201)	201 (200)	181 (180)	181 (180)
Other Changes:						
Ceased hospital operations but is still a grantee	0	0	0	0	0	0
Changed scope	0	0	0	0	0	0
Other	0	0	0	0	0	0

^aSeymour Hospital, Texas
Frio Hospital Association, Texas

^bSt. Anthony Hospital, Oregon
Maude Norton Memorial City Hospital, Kansas
Tyler County Hospital District, Texas
Throckmorton Hospital, Texas

^cTri County Hospital, Michigan
Dade County Memorial Hospital, Missouri

^dFrancis A. Bell Memorial Hospital, Michigan
Tippah County Hospital, Mississippi

^eNorth Claiborne Hospital, Louisiana

^fFlagstaff Medical Center, Arizona
Paris Community Hospital, Illinois
Jackson Parish Hospital, Louisiana
Colorado-Fayette Medical Center, Texas
(also a 1992 grantee)
Roane General Hospital, West Virginia

^gForest City Hospital, Iowa
Community Memorial Hospital, Iowa

^hCrest Medical Center, Florida
(also ceased operations)
Vermillion County Hospital, Indiana
Adair County Memorial Hospital, Iowa
St. Joseph Memorial Hospital, Iowa
Bladen County Hospital, North Carolina
Mercy Hospital--Willard, Ohio
Marshall County Memorial Hospital, South Dakota
Hood General Hospital, Texas
South Limestone Hospital, Texas
Clay County Memorial Hospital, Texas
Memorial Hospital, Texas
Lynn County Hospital, Texas
Apple River Hospital, Wisconsin

TABLE I.3
1991 GRANTEE STATUS

	At Award 9/15/91	Month 3 1/1/92	Month 9 7/1/92	Cumulative 7/1/92
Number of Grantees (Hospitals) at Start of Period	187 (187)	--	--	187 (187)
Number of Voluntary Terminations in Period	1 ^a (1)	0	2 ^f (2)	3 (3)
Number of HCFA Terminations in Period	0	1 ^c (1)	2 ^g (2)	3 (2)
Number of Hospitals Ceasing Operations and Terminated in Period	2 ^b (2)	0	0	2 (2)
Number Completed in Period	0	0	0	0
Number Reclassified as Urban Under Medicare	0	0	7 ^h (7)	7 (7)
Number Remaining at End of Period	184 (184)	183 (183)	172 (172)	172 (172)
Other Changes:	0	0	0	0
Ceased hospital operations but is still a grantee	0	1 ^d	0	1
Changed scope	0	1 ^e	3 ⁱ	4
Other	0	0	0	0

^aBonner General Hospital, Idaho

^bJohn MacDonald Hospital, Iowa
Moshannon Valley Community Hospital, Pennsylvania

^cRobersonville Medical Center, North Carolina

^dSt. John Hospital, Kansas

^eHardin County General Hospital, Illinois

^fGordon Hospital, Georgia
Fosteria City Hospital, Ohio
(also a 1992 grantee)

^gWalton Regional Hospital, Florida
Kentucky River Medical Center, Kentucky

^hPutnam County Hospital, Indiana
Claiborne County Hospital, Mississippi
Fallon Medical Complex, Montana
Hamilton County General Hospital, Texas
Mercy Hospital, North Dakota
Towner County Memorial Hospital, North Dakota
Day Kimball Hospital, Connecticut

ⁱLawrence County Hospital, Mississippi
Down East Community Hospital, Maine
Blue Ridge Hospital System, North Carolina

Regional Hospital in Florida and Kentucky River Medical Center in Kentucky, became proprietary institutions and thus were no longer eligible for grant funds. Fosteria City Hospital in Ohio voluntarily discontinued its 1991 grant funding after being awarded a 1992 RHCT grant, and Gordon Hospital in Georgia voluntarily withdrew from the grant program.

4. 1992 Grantees

This year HCFA awarded RHCT grants to 163 hospitals to implement 163 projects. None of the 163 hospitals has reported any changes affecting its status during the first 3 months of the award (see Table I.4).

TABLE I.4
1992 GRANTEE STATUS

	Time Period	
	At Award 9/15/92	Cumulative
Number of Grantees (Hospitals) Receiving an Award	163	163
Number of Voluntary Terminations	0	0
Number of HCFA Terminations	0	0
Number of Hospitals Ceasing Operations and Terminated	0	0
Number Remaining	163	163

II. CHANGES AMONG 1990 GRANTEES AFTER 1 YEAR

Hospitals are under constant pressure to change from a variety of sources. In some cases, the source is peculiar to a hospital, such as the appearance of a new competitor or changes in the service area population. In other cases, the impetus for change affects a larger number of hospitals--for example, new regulations, reimbursement methods, or technologies. This chapter describes changes in management, staffing, and services that were reported by the 1990 grantees during the first year of their projects and compares them to reports by the 1989 grantees. It also discusses hospital closings during the first 2 years of the program.

A. CHANGES IN MANAGEMENT DURING THE FIRST YEAR

Management changes can have important implications because they have the potential to change the focus or impede the implementation of a grant project. Loss of a committed manager who is in a position to ensure that a new project has the necessary resources and is able to marshal organizational support can have major consequences. Management changes can divert attention and critical resources from a project. Even a committed new administrator may not be able to give a project the attention or resources it needs if other more pressing problems need remedying. Coping with these problems may require diverting staff and financial resources away from the project.

Because a number of hospitals have undertaken management improvement projects, some management changes may result from hospitals' RHCT projects. Management improvement

projects have called for adding new technologies, reorganizing to improve efficiency, and exploring the desirability of management service contracts or affiliation with another hospital.

During the 18 months after their RHCT grant proposal submission, 30 percent of the 1990 grantee hospitals changed hospital administrators at least once, and 3.5 percent changed administrators at least twice. Compared to the 1989 grantees, the 1990 grantees had slightly fewer hospital administrator changes. Administrator turnover among the 1990 grantees was 30 percent over 18 months, compared to 32 percent for the 1989 grantees.¹ In addition, the incidence of two or more turnovers was half as common for 1990 grantees, compared to their 1989 counterparts (3.5 percent and 7.5 percent, respectively). The changes in hospital management and management structure are reported in Table II.1.

Hospitals added or dropped management service contracts less frequently than they changed administrators.² Nearly 29 percent of the 1990 grantees had management service contracts at the start of the grant project. As Table II.1 shows, nearly 4 percent of the grantees added management service contracts, while 1 percent dropped them, leaving 31 percent with a management contract after 12 months. In contrast, because the proportions of 1989 grantees adding and dropping contracts were the same (3 percent), they ended their first year as they started, with 29 percent contracting for management services.

¹All figures for the 1989 grantees cited in this chapter were taken from "Evaluation of the Grant Program for Rural Health Care Transition: Fourth Semi-Annual Progress Report" by Cheh et al.

²No grantees are using their grants to pay for contract management services.

TABLE II.1

MANAGEMENT CHANGES OVER FIRST YEAR OF GRANT:
1990 GRANTEES

Management Change	Distribution
Administrator	
Administrator Changed at Least Once	29.7 % ^a
Administrator Changed at Least Twice	3.5 % ^a
Contracted Management	
Hospital Added Contract for Management Services	3.7 % ^b
Hospital Stopped Contract for Management Services	1.0 % ^b
Hospitals with Contract for Management Services	31.4 % ^c
Multi-Hospital System	
Hospital Joined a Multi-Hospital System	1.0 % ^b
Hospital Left a Multi-Hospital System	1.6 % ^b
Hospitals in Multi-Hospital Systems	16.2 % ^c

NOTE: The total number of hospitals reporting is 209. Two hundred and two hospitals reported administration data, and 191 hospitals reported contract management and hospital system data.

^aMeasured from the time the proposal was submitted--an 18-month period.

^bMeasured from the time the grant started--a 12-month period.

^cMeasured at 12 months.

Joining or leaving a multi-hospital system usually implies change in ownership as a result of purchase or sale of the hospital, a situation that occurred less frequently than other management changes. One percent of the hospitals joined multi-hospital systems, and nearly two percent left such arrangements. As a result, the proportion of 1990 grantee hospitals affiliated with multi-hospital systems at the end of the first year (16 percent) was less than one percentage point lower than the 17 percent rate at the start. In comparison with 1989 grantees, the number of 1990 grantees in multi-hospital systems one year after grant award was 5 percent lower.

B. CHANGES IN HEALTH CARE PERSONNEL AFTER 1 YEAR

1. Physicians

More than two-thirds (68 percent) of the grantees experienced change in the composition of physicians in their community during the first grant year. The net effect was an increase of .23 physicians during the first year (see Table II.2). Thirty-two percent of the hospitals had a net increase in physicians, 22 percent had a net decrease, and 15 percent had physician changes that resulted in no net gain or loss.

Of the 55 percent reporting new physicians in their service areas during the first year, over half (32 percent) reported a net gain. The average gain in physicians among hospitals with new physicians was 2.1 or a 27 percent increase over the number of physicians in their service areas at the start of the grant project.

TABLE II.2

PHYSICIAN STAFFING CHANGES OVER FIRST YEAR OF GRANT:
1990 GRANTEES

Staff Change	Distribution or Mean
Percentage of Hospitals with No Physician Changes (i.e., no hires or quits)	32 %
Hospitals with Net Increase in Physicians in Service Area	32 %
Average net increase	1.9
Average percentage of physicians ^a	26 %
Hospitals with Net Decrease in Physicians in Service Area	22 %
Average net decrease	1.7
Average percentage of physicians ^b	26 %
Hospitals with No Net Change in Physicians in Service Area ^c	46 %
Average Net Change Over 1 Year	.23
Hospitals that Gained Physicians	55 %
Average number gained	2.1
Average percentage of physicians ^d	27 %
Hospitals that Lost Physicians	49 %
Average number lost	1.9
Average percentage of physicians ^e	26 %

^aNet increase in physicians divided by number of physicians in service area at grant award.

^bNet decrease in physicians divided by number of physicians in service area at grant award.

^cIncludes no physician changes (from line one) and changes that resulted in no net gain.

^dNumber of physicians hired divided by number of physicians in service area at grant award.

^eNumber of physicians lost divided by number of physicians in service area at grant award.

On the other hand, of the 49 percent losing physicians during the first year, nearly half (22 percent) reported a net physician loss. Those losing physicians lost an average of 1.7 physicians or 26 percent of the physicians in their communities at the start of the project.

Although physician turnover was lower among 1990 grantees than among 1989 grantees, the net effect appears to have been the same in both cohorts. Half of the 1989 grantees reported no physician changes in the first year compared to 32 percent of the 1990 grantees; however, the average net change in physicians during the first year was nearly the same--.24 for the 1989 grantees and .23 for the 1990 grantees.

2. Nurses

Nursing staff changes were widespread among the 1990 grantees. In 1990, only 8 of the 176 grantees providing nurse staffing information did not experience any changes in registered nurses (RNs) and licensed practical nurses (LPNs). Hospitals were susceptible to changes in both RNs and LPNs, although RN changes occurred more frequently.

Ninety-two percent of the hospitals hired RNs, while a nearly equal proportion, 89 percent, lost RNs. Only 6 percent of the grantees did not experience changes in their RN staff. Fifty-six percent had a net increase in RNs, 24 percent had a net decrease, and 21 percent had no net change (see Table II.3). The average gain in RNs over the first year was 1.1. These changes are strikingly similar to those reported by 1989 grantees.

LPNs were hired by 61 percent of the 1990 grantee hospitals. Sixty-three percent lost LPNs during the first year of the project, and 29 percent had no LPN staff turnover. Thirty-six percent of the grantees had a net increase in LPNs, 21 percent had a net decrease,

TABLE II.3

NURSING AND ANCILLARY STAFF CHANGES OVER FIRST
YEAR OF GRANT: 1990 GRANTEES

Staff Change	Percent Distribution
Nurses	
RNs	
Hospitals with net increase	56 %
Hospitals with net decrease	24 %
Hospitals with no net change	21 %
Hospitals that hired RN staff	92 %
Hospitals that lost RN staff	89 %
LPNs	
Hospitals with net increase	36 %
Hospitals with net decrease	21 %
Hospitals with no net change	43 %
Hospitals that hired LPN staff	61 %
Hospitals that lost LPN staff	63 %
Other Licensed or Certified Personnel	
Hospitals with net increase	55 %
Hospitals with net decrease	19 %
Hospitals with no net change	26 %
Hospitals that hired other licensed/certified staff	85 %
Hospitals that lost other licensed/certified staff	82 %
Type of staff most frequently hired	
Laboratory	52 %
Radiologic	46 %
Dietary	33 %
Respiratory	32 %
Type of staff most frequently lost	
Laboratory	45 %
Radiologic	35 %
Dietary	34 %

and 43 percent had no net change. The net effect of these changes was an average increase in LPNs of .64.

The 1990 grantees' LPN staff appeared more stable than that of the 1989 grantees. Seventy-eight percent of the 1989 grantees hired LPNs, and 71 percent lost LPNs in the first year. A larger proportion of 1989 grantees reported a net increase in LPNs (49 percent compared to 36 percent of the 1990 grantees). However, the proportion of 1989 grantees reporting no net change in LPN staff was smaller--30 percent compared to 43 percent of the 1990 grantees. The proportion of grantees reporting a decrease in LPN staff was the same for both years (21 percent).

3. Other Licensed or Certified Allied Health Professional Staff

Changes among other licensed or certified staff appear to be as prevalent as changes among nurses. Licensed or certified personnel were hired by 85 percent and were lost by 82 percent of the 1990 grantees. Fifty-five percent of the grantees showed a net increase in licensed or certified staff, 19 percent showed a net decrease, and 26 percent showed no net change (see Table II.3). Overall, the 1990 grantees increased their licensed or certified staff by 1.25 persons over the first year.

As might be expected, hirings and losses appear to correlate, with hirings generally exceeding losses. Grantee hospitals frequently reported hiring the types of licensed or certified staff that they most frequently lost. For example, more than one third of the grantees reported hiring or losing laboratory personnel.

A comparison with 1989 grantees shows that the proportion of 1990 grantees hiring licensed or certified staff was slightly lower. Ninety-one percent of the 1989 grantees hired licensed or certified staff, and 58 percent had a net increase in such staff. No difference was observed in the proportion losing licensed or certified personnel. The types of licensed or certified staff most frequently hired or lost were also similar.

C. CHANGES IN SERVICES AFTER 1 YEAR

The 1990 grantee hospitals' struggle to meet the needs of their service areas, improve the quality of health care, and attract and keep patients is reflected in changes in services they offered during the first grant year. A strikingly large percentage of hospitals added or augmented services (85 percent), more than 3 times the percentage dropping a service (see Table II.4).

Physician services were by far the most frequently added. Fifty-three percent of the 1990 grantees added specialty outpatient clinics during the first year of the project, and 36 percent added inpatient physician services. The specialty clinics most frequently added were those most heavily used by elderly persons: ophthalmology, cardiology, orthopedics, general surgery, urology, podiatry, and internal medicine. Pediatric and psychiatric clinics were the least likely to be added. The most frequently added inpatient physician services were general surgery, internal medicine, and radiology. Other frequently added services were satellite clinics, home health, Computed Axial Tomography (CT) scanning, cardiac rehabilitation, support services, and mammography.

TABLE II.4
CHANGES IN SERVICES OVER FIRST YEAR OF GRANT:
1990 GRANTEES

Change	Percent Adding or Discontinuing Service
Hospitals that Added Services	85 %
Most frequently added services:	
Specialty Outpatient Clinics	53 %
Inpatient Physician Services	36 %
Satellite Clinics	16 %
Home Health	16 %
Computed Axial Tomography (CT) Scan	14 %
Cardiac Rehabilitation	13 %
Support Programs	13 %
Mammography	12 %
Hospitals that Discontinued Services	25 %
Most frequently discontinued services:	
Obstetrics-Gynecology	5 %
Pediatrics	3 %
Ears, Nose, and Throat	3 %
Urology	3 %

NOTE: Within categories, percentages may not add to the total because hospitals could add or discontinue multiple services and the table does not include all service changes reported.

Far fewer services were dropped during the first year, but physician-delivered services were the most likely to be dropped. The most frequently dropped service was obstetrics and gynecology; 5 percent of grantees reported eliminating this service. Other services that were frequently dropped were pediatrics; urology; and ear, nose, and throat services.

Among both the 1989 and 1990 grantees, the proportion adding services was far greater than that dropping services, and the service most frequently added was specialty outpatient clinics. There were also some similarities in the frequently added services. In both groups, satellite clinics, home health services, and CT scanning were among these services. In addition, both groups reported that the most frequently discontinued service was obstetrics and gynecology.

D. CLOSURES

The 1990 grantees were not immune to hospital closings. During the first year of the grant project, 2 of the 211 hospitals awarded RHCT grants closed. In the ensuing 12 months, 4 additional hospitals closed, bringing the total to 6 or 2.8 percent of 1990 grantees.³ The proportion of hospital closings among the 1990 grantees was about half the proportion recorded for the 1989 grantees. At month 12, the 1989 grantees had reported 6 hospital closings and, at month 24, the total closings had risen to 8, or 4.4 percent of the 181 hospitals awarded grants in 1989.

³Included among the closed hospitals discussed here is Crest Medical Center in Florida, a hospital that at the time of closing had been reclassified by HCFA as an urban facility and would not have been eligible to receive third-year grant funding. In Table I.2 in Chapter I, this hospital is classified as leaving the program because of its urban reclassification rather than because of its closure.

It is difficult to pinpoint the reasons for hospital closings among the 1990 grantees, but low occupancy appears to have been an important factor. Three of the six hospitals filled less than 19 percent of their beds in the year before closure, and they all had occupancy rates of 37 percent or less. The combination of low occupancy and small size (all of the closed hospitals had under 50 licensed beds) resulted in very few patients at the facilities. The average number of acute care inpatients per day ranged from one-third (that is, 1 patient every 3 days) to 19, with 5 hospitals averaging less than 10 acute care patients per day.

Strong competition from neighboring hospitals for patients in their primary service areas appears to be a related problem for three of the hospitals, since they were losing more than 70 percent of their patients to other hospitals. Community support also appears to have eroded in three communities, because efforts to increase taxes to support the hospitals failed.

It is possible, though, that two of the hospitals would have remained open had it not been for a crisis.⁴ At these two hospitals, physician changes precipitated a crisis that led to eventual closing. In one case, the crisis occurred when the hospital suspended a physician who admitted most of the hospital's inpatients after he failed to heed repeated warnings not to refer emergency room patients to other hospitals without an examination. At the other hospital, the crisis occurred when the area's two physicians decided to reduce their on-call

⁴A third hospital also appears to have experienced a crisis just prior to closing, though the nature of the crisis is unknown because no hospital staff were available for discussions. In 1990, this hospital had 49 licensed and staffed beds and a 45 percent occupancy rate. By 1991, the number of licensed and staffed beds had dropped to 19 and 11, respectively, and the occupancy rate for licensed beds was around 29 percent. Because the area lost only one of its four physicians during this period, it is possible that the hospital was heavily dependent on the physician who left or that the remaining three physicians decided to admit their patients to another hospital.

burden by admitting their patients to a larger neighboring hospital. In both cases, the hospitals were able to find replacements, but the replacements were not able to build their caseloads in time to save the hospitals.

For most area residents, the loss of these hospitals will probably not have a significant impact on their access to health care because, in all cases, there was another acute care hospital within a 30-minute drive. As the low occupancy rates suggest, many residents were probably already taking advantage of these alternatives. In addition, three of the hospitals reported that their staff physicians remained in practice locally after the closing.

Area residents that depend on a hospital for health service, however, could be seriously affected by the loss of a hospital if they do not have the means to travel to neighboring hospitals. Only one of the hospitals that closed is continuing to provide any health services. It reopened as a health care center with outpatient services in surgery, radiology, laboratory, and physical and respiratory therapies. Two of the remaining five communities are exploring the possibility of establishing a medical clinic or an urgent care clinic to replace the hospitals that closed.

III. SELF-REPORTED PROGRESS OF 1990 GRANTEES

In the Omnibus Budget Reconciliation Act of 1987, Congress mandated that HCFA provide semi-annual progress reports on the Rural Health Care Transition (RHCT) grantees. HCFA established a monitoring process to ensure that hospitals spent grant funds in a manner consistent with program goals and regulations. The process informs both HCFA and Congress on the allocation of grant funds and on grantees' progress. Under the terms and conditions of the RHCT awards, grantees must report their grant expenditures and project progress every 6 months.

The fourth report from 1990 grantees (covering April 1, 1992, through September 30, 1992) was due on October 26, 1992. Of the 182 grant projects (181 hospitals) active during this period, 166 returned their monitoring reports in time to be processed for this Congressional report. The information presented in this chapter is based on the self-reported progress made by these grantees.

Two years after receiving their grants, most 1990 grantees credited project achievements to the availability of funds (in particular, RHCT grant funds) and the dedication of project staff. Project problems were attributed to recruitment and retention difficulties and operational and administrative problems. The 1990 grantees reported spending most of their grant funds on personnel, non-physician contracts, and capital items.

A. PROGRESS OF 1990 GRANTEES

1. Activities Completed

After 2 years, the 1990 grantees continued to make steady progress. Approximately 7 percent had completed all their project activities, 51 percent were ahead of or on schedule, and 41 percent were a month or more behind schedule (see Table III.1). Compared to 6 months earlier, more 1990 grantees had completed all their project activities, and fewer were behind schedule.

The 1990 grantees continued to be most successful at completing activities like equipment purchases, planning and market analysis, and the recruitment of health care professionals; one-third or more of these activities were completed. Compared to the 1989 grantees after 2 years, the 1990 grantees were further ahead with construction and renovation: 35 percent of the 66 1990 grantees that were doing construction or renovation reported completing the activity, compared to none of the 37 1989 grantees.

Consistent with previous reports submitted by the 1990 grantees, hospitals introducing new services generally adhered to schedules. For example, 80 percent of the prevention and wellness projects, 76 percent of the training and staff development and outpatient service projects, and 75 percent of the swing bed projects were either ahead of or on schedule.

Consistent with previous reports, hospitals fell behind schedule on activities over which they had only partial control. For example, projects involving construction or renovation were

TABLE III.1

DISTRIBUTION OF THE PROGRESS OF PROJECTS BY OBJECTIVE:
1990 GRANTEES

Project Objective	Total Number	Percent Completed	Percent Ahead of Schedule	Percent on Schedule	Percent Behind Schedule by More than One Month
Planning or Market Analysis	78	51 %	1 %	46 %	1 %
Equipment Purchase	108	47 %	1 %	43 %	9 %
Construction or Renovation	66	35 %	2 %	27 %	36 %
Recruiting	117	33 %	3 %	43 %	22 %
Emergency Medical Services	16	25 %	0 %	63 %	13 %
Rural Health Network	52	23 %	0 %	56 %	21 %
Inpatient or Hospice Service	17	18 %	0 %	65 %	18 %
Clinic	42	17 %	2 %	60 %	21 %
Training or Staff Development	90	17 %	0 %	76 %	8 %
Outpatient Service	46	13 %	0 %	76 %	11 %
Other Health Service	16	13 %	0 %	63 %	25 %
Education, Prevention, or Wellness Programs	83	11 %	0 %	80 %	10 %
Other	25	8 %	0 %	56 %	36 %
Swing Beds	4	0 %	0 %	75 %	25 %
Total	164 ^a	7 %	0 %	51 %	41 %

NOTES: Totals may not add to 100 percent due to rounding error. Only grantees who were still active at the end of 24 months are included.

Progress is defined by the project's most delayed activity. For example, a project that is on schedule in only one activity and ahead of schedule in all the rest is defined to be on schedule.

^aTwo hospitals did not report timeliness.

the most likely to be delayed; 36 percent were behind schedule at the end of the second year (a larger percentage than had completed the activity or were on schedule). Furthermore, 22 percent of recruitment projects were behind schedule.¹

2. Service Implementation

One goal of the RHCT grant program is to increase access to care for rural residents. Whether grantees achieve this goal depends on whether they actually implement or upgrade patient services, how long it takes to implement services, and, after implementation, whether local residents use the services.

Exactly 126 1990 grantees reported using grant funds to implement or enhance 278 patient services by the end of the second year (see Table III.2). More than 50 percent of these services were outpatient services (145 projects), 26 percent were well-patient/social services (73 projects), 7 percent were transportation services (19 projects), and 4 percent (10 projects) were inpatient services.

The outpatient services most frequently developed or enhanced were diagnostic services (24 projects), rural health clinics (22 projects), and home health and hospice services (22 projects).² The 1990 grantees reported implementing or upgrading three times more

¹A large proportion of "other" projects were also reportedly behind schedule. These projects included an assisted living facility, a community health needs survey, and combined physician peer review for a consortium. Many of the "other" projects were also those over which the hospitals did not have full control.

²Some of the 1990 grantees may have mistakenly reported as Rural Health Clinics primary care clinics that were not Federally qualified.

LENGTH OF TIME FOR RIIC GRANT FUNDED PATIENT SERVICES TO BE
IMPLEMENTED OR UPGRADED: 1990 GRANTEES

Service	Number Implemented Within 24 Months	Average Number of Months After Grant Award	Percentage Implemented or Upgraded (Cumulative)		
			6 Months After Grant Award	12 Months After Grant Award	18 Months After Grant Award
Outpatient	145	15	18 %	35 %	55 %
Diagnostic services	24	16	13 %	26 %	56 %
Rural health clinic	22	15	14 %	37 %	51 %
Home health agency/hospice	22	15	27 %	36 %	46 %
Cardiac clinic	16	13	19 %	50 %	75 %
Emergency services	11	18	0 %	18 %	45 %
Primary care clinic	10	13	20 %	50 %	60 %
Physical therapy services	9	13	22 %	44 %	77 %
Outpatient surgery	9	15	22 %	33 %	44 %
Occupational therapy	5	15	20 %	40 %	60 %
Outpatient mental health	5	16	20 %	20 %	40 %
Oncology chemotherapy clinic	4	14	25 %	25 %	50 %
Ear, nose, and throat clinic	4	15	25 %	25 %	50 %
Mobile health clinic	3	10	33 %	66 %	100 %
Pulmonary rehabilitation	1	19	0 %	0 %	0 %
Inpatient	10	17	10 %	10 %	40 %
Nursing home beds	5	18	0 %	0 %	40 %
Swing beds	3	19	0 %	0 %	0 %
Mental health (inpatient)	2	9	50 %	50 %	100 %
Transportation	19	14	16 %	32 %	74 %
Non-emergency medical	16	14	19 %	31 %	81 %
Emergency medical	3	18	0 %	33 %	33 %
Well Patient	73	14	23 %	39 %	65 %
Patient/community education	39	13	26 %	51 %	72 %
Wellness/fitness programs	16	16	13 %	19 %	63 %
Social services	15	15	27 %	33 %	60 %
Adult day care	3	14	33 %	33 %	33 %
Other Patient Services	31	17	10 %	26 %	45 %
Total Number of Patient Services	278	15	18 %	34 %	58 %

SOURCE: Fourth 1990 Grantee Monitoring Report.

NOTE: A grantee can implement more than one patient service. These 278 services were implemented by 126 grantees.

outpatient services than the 1989 grantees after 30 months.³ In both years, however, diagnostic and home health services were the most common services added.

The 1990 grantees reported implementing or upgrading a large number of well-patient services (73 projects) and transportation services (19 projects). Patient/community education (39 projects) was the most common well-patient service;⁴ non-emergency transportation (16 projects), the most common transportation service. In contrast, after 30 months, the 1989 grantees reported implementing or enhancing half as many transportation services (8 projects) and one-quarter as many well-patient services (10 projects).

Nursing home beds (5 projects) was the most common inpatient service implemented. Other types of inpatient services included swing beds (3 projects) and mental health inpatient services (2 projects). In comparison to the 1989 grantees after 30 months, the 1990 grantees reported implementing or upgrading only one more inpatient service. Further, the 1989 grantees implemented more inpatient mental health services than the 1990 grantees, who enhanced more nursing home services.

a. Time Frame for Implementation

Among the services implemented or upgraded within 2 years after grant award, transportation and well-patient services were introduced soonest. On average, these projects

³The 1989 grantees reported implementing or upgrading 49 outpatient services (Cheh et al., 1992b).

⁴Patient/community education projects include both health education classes (for example, smoking cessation) and individual education sessions (for example, nutritional counseling for people with diabetes).

began serving patients 14 months after grants were awarded in September 1990. Outpatient projects began serving patients on average 15 months after award, and inpatient projects were the slowest to start serving patients (17 months after award). (See Table III.2.)

Approximately 74 percent of the transportation projects and 65 percent of the well-patient projects were implemented within 18 months after award receipt. Services like non-emergency transportation and fitness programs can be implemented more quickly than outpatient and inpatient services because they are not reimbursable by Medicare and Medicaid. Thus, unlike projects implementing services reimbursable by Medicare and Medicaid (for example, home health, skilled nursing, and rural health clinics), these projects do not have to apply for licensure or comply with regulatory standards, which can be exacting.

A large proportion of outpatient and inpatient projects took more than 18 months to implement. Close to half of the outpatient projects (45 percent) and more than half of the inpatient projects (60 percent) began providing care more than 18 months after award. These projects took longer to implement because many of these activities (like recruiting physicians for clinics) were expensive, and some (like setting up a home health agency) required time to establish procedures and meet regulatory standards.

b. Utilization Rates

Implementing service projects is important for increasing access to care. If patients do not use these services, however, making them available does not increase access to care or improve the financial viability of rural hospitals.

Of the 278 services implemented using grant funds, 153 reported number of patients served. Across these 153 services, we found that 53,916 patients per month received services at their local hospitals; these patients would otherwise have had to travel for service or done without.

Utilization rates among service projects varied widely.⁵ Utilization rates for more inclusive outpatient services, like rural health clinics, emergency services, diagnostic services, primary care clinics, and home health agencies (an average of 240, 231, 210, 173, and 137 patients served per month, respectively) were higher than those for more specialized outpatient services like cardiac clinics and outpatient surgery (an average of 13 and 9 patients per month, respectively). (See Table III.3.) The high volume generated by home health agencies and rural health clinics suggests that these services were improving access to care and small rural hospitals' financial viability.

Utilization of inpatient services also varied. The 5 nursing-home projects and the 3 swing-bed projects were serving an average of 16 and 8 patients per month, respectively. In contrast, the 2 inpatient mental health facilities were serving an average of 40 patients per month.⁶

By far, the highest volume of services rendered was for non-emergency transportation services, in which the median number of patients served per month was 666 (implemented by 16 hospitals). One of the hospitals that enhanced its non-emergency transportation service

⁵The 1990 grantees reported one of two utilization measures: average number of patients served per month or average number of patient visits per month. In some cases, the grantees provided both numbers. In these cases, we have reported only the number of patients served per month.

⁶Utilization figures can vary with the size of individual units.

TABLE III.3

PATIENTS SERVED PER MONTH AND PATIENT VISITS PER MONTH
FOR SERVICES INTRODUCED THROUGH THE RHCT GRANT
PROGRAM AFTER 2 YEARS: 1990 GRANTEES

Service	Average Number of Patients Served Per Month	Average Number of Patient Visits Per Month
Outpatient		
Primary care clinic	173	644
Home health agency/hospice	137	492
Diagnostic services	210	223
Emergency services	231	762
Cardiac clinic	13	76
Physical therapy services	99	457
Rural health clinic	240	380
Pulmonary rehabilitation	--	487 ^a
Outpatient mental health services	16	293
Oncology chemotherapy clinic	9	754
Outpatient surgery	9	6
Occupational therapy	9	45
Mobile health clinic	82	62
Ear, nose, and throat clinic	51	210
Inpatient		
Mental health inpatient services	40	--
Nursing home beds	16	--
Swing beds	8	--
Transportation		
Emergency medical	--	65
Non-emergency medical	666 ^b	95

TABLE III.3 (continued)

Service	Average Number of Patients Served Per Month	Average Number of Patient Visits Per Month
Well Patient		
Patient/community education	358	113
Adult day care	28	49
Social services	569	126
Wellness/fitness programs	248	374
	104	284
Other Patient Services		
Total Number of Patient Served or Patient Visits	53,916 ^c	23,742 ^d

SOURCE: Fourth 1990 Grantee Monitoring Report.

NOTE: Some grantees track only the number of patients served, while others track only the number of visits. In cases where the grantees provide both numbers, only the number of patients served is reported.

^aOne hospital introduced this service.

^bThis is the median number of patients served per month rather than the mean.

^cDefined as average number of patients served multiplied by the number of grantees providing the service, summed across all services.

^dDefined as average number of visits multiplied by the number of grantees providing the service, summed across all services.

averaged 20,160 patients per month. This hospital's transportation service, which increased its average patients served per month from 16,800 to 20,160 during the last 6 months, serviced 7 counties and 9 towns. This hospital's service transported patients to the hospital as well as to the public health department, health education classes, physician offices, pharmacies, health care equipment vendors, support groups, nursing homes, and so on. The hospital also used the service to transport seniors to the local library.

Other high-volume services included several well patient services: social services, health education, and wellness and fitness programs that typically provide classes; they averaged 569, 358, and 248 patients per month, respectively.

B. PROBLEMS ENCOUNTERED

The 1990 grantees mentioned the following difficulties most often:

- Problems with recruiting or retaining staff (cited by 25 percent)
- Operational or administrative problems with projects (cited by 22 percent)
- The lack of financial resources (cited by 13 percent)

The difficulty mentioned most frequently by the 1990 grantees pertained to *staff recruitment and retention*--mostly involving physicians. One hospital lost its only orthopedic surgeon, which reduced admissions. Because of its extreme isolation, this hospital was having difficulty recruiting a new orthopedic surgeon. A two-hospital consortium experienced problems with jointly recruiting family physicians. These hospitals cited their inability to

compete with urban hospitals' salary packages and well-equipped facilities as reasons for their recruitment troubles. Some grantees cited high staff turnover--especially for nurses.

The second most frequently cited difficulty pertained to *operational and administrative problems*. These problems varied among the hospitals. Some grantees found it difficult to develop schedules to support the most efficient use of program staff. In other cases, the difficulties were due to internal administrative delays. One hospital was behind schedule in implementing electronic billing because of setbacks in developing procedures for the system. A two-hospital consortium reported scheduling conflicts in coordinating its non-emergency transportation service.

The third most frequently cited difficulty was *lack of funding*, often forcing a hospital to reduce its project scope or delay implementation. One hospital attributed difficulty in establishing emergency transportation services to the reluctance of local government to commit funding to the project. Budget constraints forced one hospital to delay a hydrotherapy project. Another hospital reported difficulties operating a child care center because the RHCT grant and tuition fees for children did not cover all operating expenses. The hospital was seeking other grant funds to support the project.

C. PROJECT MODIFICATIONS

Three of the 1990 grantees modified components of their projects. One project, an eight-hospital consortium, tabled its plans to recruit gerontologists and develop geriatric assessment teams because three of the hospitals lost their administrators and support from regional physicians had declined. Instead, this project refocused on maintaining current services and

training area family physicians in gerontology. Another project dropped its plans to purchase emergency room equipment and planned to spend grant funds on developing trustee educational programs. A third project canceled plans to introduce home health care and physical therapy because of the unavailability of registered nurses and physical therapists. Instead, this project continued with its Lifeline project and its emergency medical technician training program.

D. GRANT EXPENDITURES

HCFA awarded \$18,034,375 to the 1990 grantees in the first 2 years--\$9,273,003 for the first year, and \$8,761,372 for the second year. The 166 reporting grantees spent \$14,040,066 through the second year of their projects.

The grantees reported spending a majority (41 percent) of their grant funds on personnel and fringe benefits. Cumulative expenditures by category included:

- Personnel (including fringe benefits): \$5,703,618 (41 percent)
- Equipment and capital: \$2,661,428 (19 percent)
- Nonphysician contracts: \$2,302,025 (16 percent)
- Physician contracts: \$903,232 (6 percent)
- Supply: \$705,032 (5 percent)
- Travel: \$457,156 (3 percent)
- Other: \$1,321,453 (9 percent)

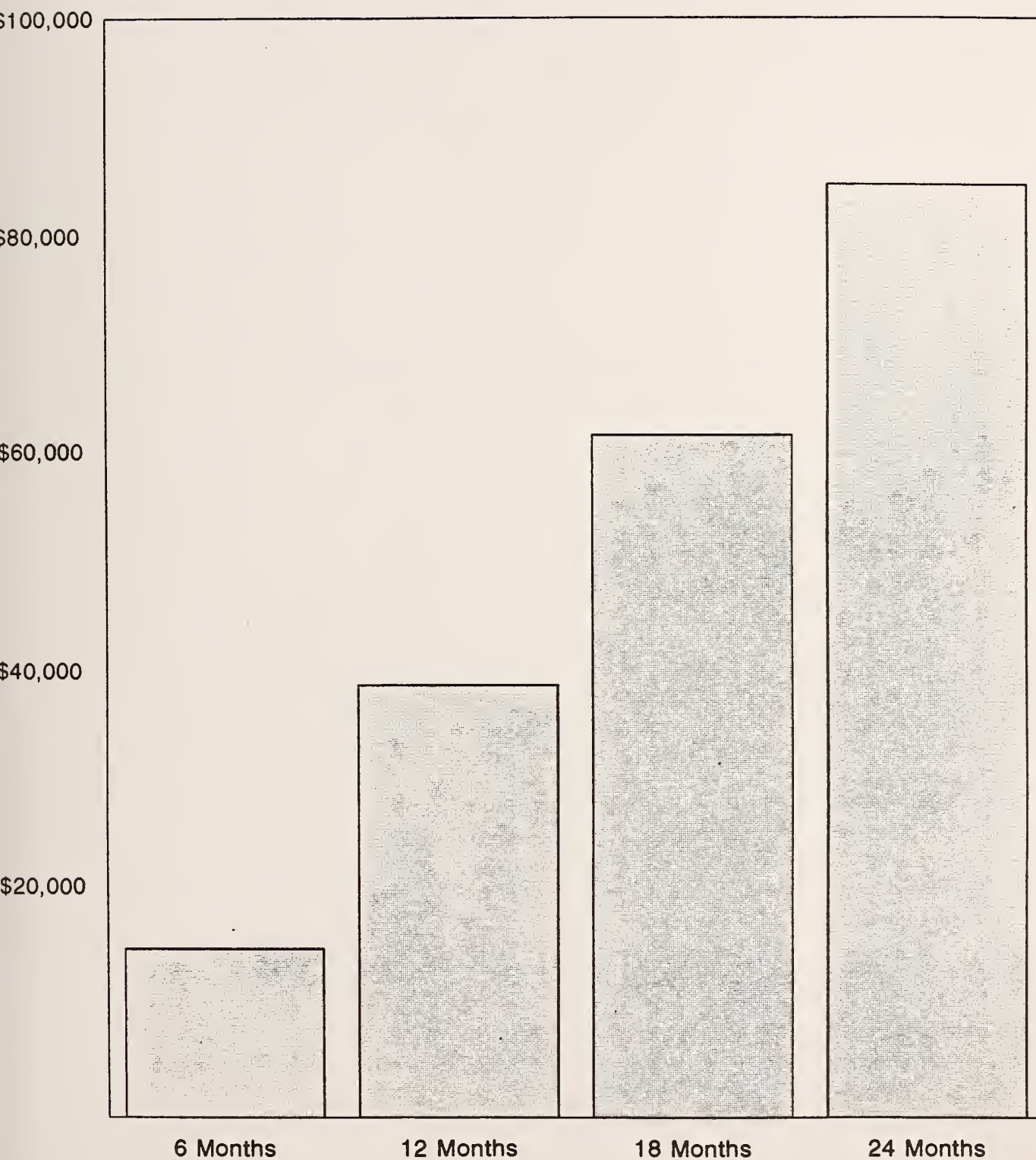
Examples of some of the capital items purchased by the 1990 grantees include computer equipment, diagnostic equipment, vans, and construction materials. The 1990 grantees used grant funds to pay for such non-physician contracts as Lifeline servicing, financial consultants, and health care consultants.

As might be expected, project activities influenced the types of expenditures, especially in the following categories: personnel, equipment and capital purchases, and non-physician contracts. Service, planning, wellness, and recruitment projects consumed a greater share of grant funds for personnel costs than other types of projects. New services and construction and equipment purchasing projects devoted a greater proportion of grant funds to equipment and capital purchases. Construction, management improvement, and planning projects committed a greater share of grant funds to non-physician contracts; these projects involved outside parties like construction subcontractors and management consultants.

By the end of their second year, the 1990 grantees reported spending an average of \$84,787 per grant, close to their maximum 2-year grant award (see Figure III.1).⁷ The grantees took some time to get their projects started, spending the smallest part of their grant money during the first 6 months of their projects (an average per grantee of \$15,387). The grantees reported spending more of their first-year RHCT grant funds during the second 6 months of the first year (an average per grantee of \$23,942). They also reported spending their second-year grant funds evenly throughout the second year (an average per grantee of \$22,706 for the first 6 months and \$22,752 for the second 6 months).

⁷Most of the 1990 grantees had awards of \$50,000 per year.

FIGURE III.1
AVERAGE GRANT EXPENDITURES AFTER 2 YEARS,
1990 GRANTEES



IV. PROGRESS OF 1991 GRANTEES AFTER 9 MONTHS

A. CHARACTERISTICS AT AWARD

1. Ownership and Management

Because the goals of public and private, non-profit owners may differ, ownership can affect hospital operations (see Lindsay, 1976; Weisbrod, 1988; Weisbrod and Schlesinger, 1981). Hospital ownership can also affect how particular hospitals implement a Rural Health Care Transition (RHCT) grant project, including the choice, the approach, and success or failure of the project. It is important to consider hospital ownership in the evaluation of the grant program.

At the time of the RHCT award, 56 percent of the 1991 grantees were publicly owned. Approximately 47 percent were owned by a county government or hospital district, 8 percent were owned by a city government, and 1 percent (two hospitals) were owned by an American Indian tribe (see Table IV.1). This is similar to the public ownership patterns of the 1989 and 1990 grantees: 51 percent of the 1989 grantees and 54 percent of the 1990 grantees were publicly owned. The slight differences in the proportion of publicly owned facilities across grantee years is most likely the result of random factors, but it may also reflect the large number of 1991 grantees 43 (23 percent) located in frontier areas (counties with six or fewer persons per square mile), which have a higher proportion of publicly owned facilities.¹

¹OTA-H-434, p.113.

TABLE IV.1

MANAGEMENT CHARACTERISTICS AT TIME OF AWARD:
1991 GRANTEES, COMPARED TO 1989 AND 1990 GRANTEES

Characteristic	Distribution		
	1989 Grantees	1990 Grantees	1991 Grantees
Percent Distribution by Ownership: ^a			
Private, not-for-profit	49.1 %	45.9 %	44.0 %
County/district government	40.0 %	44.4 %	46.7 %
City government	9.1 %	9.3 %	8.2 %
Other public	1.7 %	0.5 %	1.1 %
Percent of Grantees in Structured Multi-Hospital Systems:			
Not-for-profit	21.7 %	14.1 %	18.7 %
For-profit	1.1 %	2.4 %	1.1 %
Total	22.9 %	16.6 %	19.8 %
Percent of Grantees with Outside Management Contracts:			
Not-for-profit	14.9 %	16.6 %	14.3 %
For-profit	13.2 %	11.7 %	12.6 %
Total	28.2 %	28.3 %	26.9 %
Number of Grantees Reporting	175	205	182

NOTES: 1. For-profit hospitals were not eligible for grants, but not-for-profit hospitals that were managed by for-profit organizations were eligible.

2. Because of differences in record keeping, some hospitals could not report all data elements. Percentages represent those hospitals reporting the data element.

^aSince first reported, hospital ownership data has been updated to reflect new information submitted by the grantees.

A second important management issue for the evaluation of the grant program is whether the hospital operates in a multi-hospital system or under a management contract.² It has been argued that small hospitals with external management resources are better managed, but there is still skepticism among rural hospital administrators about the loss of autonomy and the interest multi-hospital systems and management companies have in local needs.³ Because one of the key goals of the RHCT grant program is to improve rural hospital management (for example, through strategic planning and management initiatives), it is important to account for managerial arrangements in place at the start of the grant program and evaluate the grants' effects on changes in management over the life of the program.

At the time of award, 20 percent of the 1991 grantees were operated by multi-hospital systems (see Table IV.1). This percentage was midway between that of the 1989 grantees (23 percent) and the 1990 grantees (17 percent) operating in multi-hospital systems. Nationwide in 1987, 18 percent of small rural hospitals operated in multi-hospital systems. The decrease, compared to the 1989 grantees, in the proportion of 1990 and 1991 grantees operating in multi-hospital systems complements the increase in publicly owned hospitals among the 1990 and 1991 grantees; fewer publicly owned hospitals operate in multi-hospital systems, compared to privately owned hospitals.⁴

²A multi-hospital system is an association of two or more hospitals that are owned, leased, sponsored or contract managed by a central organization. A contract managed hospital is one that employs a firm to provide hospital management personnel and support, but does not include a financial alliance with other hospitals associated with the management firm.

³OTA-H-434, p. 173.

⁴OTA-H-434, p. 176.

2. Beds, Occupancy Rates, and Services

Small hospital size and low utilization of hospital services increase the likelihood of hospital closure.⁵ Moreover, the smaller the hospital, the lower, on average, is the occupancy rate.⁶ Because one of the goals of the RHCT grant program is to avert hospital closure, the effect of the grant program on the size and use of these smaller hospitals is of particular interest in the evaluation of the program.

Like the 1989 and 1990 grantees and small hospitals nationwide, the vast majority of the 1991 grantees had fewer than 50 staffed beds (see Table IV.2).⁷ About 80 percent of the 1991 grantees had 50 or fewer beds, compared to 86 percent in 1990 and 79 percent in 1989. Because so many of the 1991 grantees were small institutions, and many were located in isolated areas, they were expected to have--and did have--low occupancy rates. Fifty percent of the 1991 grantees had occupancy rates of less than 26 percent. Further, the 1991 grantees also had lower occupancy rates than the 1989 and 1990 grantees (perhaps as a result of the higher proportion of frontier hospitals among the 1991 grant recipients).⁸ The median occupancy rate was 25 percent for the 1991 grantees, compared to 29 percent and 27 percent for the 1989 and 1990 grantees, respectively.

⁵GAO/HRD-91-41.

⁶OTA-H-434, p. 118.

⁷OTA-H-434, p. 117.

⁸Frontier hospitals are those located in counties with six or fewer persons per square mile. Because of the long distances implied by the low population densities, access to health care services is more difficult in frontier areas. Frontier areas are concentrated in the Great Plains and Western regions of the country (OTA-H-434, p. 37).

TABLE IV.2

NUMBER OF BEDS, OCCUPANCY RATES, AND SERVICES AVAILABLE AT AWARD:
1991 GRANTEES, COMPARED TO 1989 AND 1990 GRANTEES

Characteristic	1989 Grantees (N = 173)	1990 Grantees (N = 205)	1991 Grantees (N = 182)
Percent Distribution of Grantees by Number of Staffed Hospital Beds			
1 to 25 beds	33.9 %	40.6 %	36.8 %
26 to 50 beds	45.2 %	45.0 %	43.4 %
51 to 75 beds	10.7 %	8.9 %	15.4 %
76 or more beds	10.1 %	5.4 %	4.3 %
Percent Distribution of Grantees by Occupancy Rate			
Less than 10 percent	7.0 %	10.0 %	13.0 %
11 to 25 percent	33.9 %	36.5 %	37.3 %
26 to 40 percent	32.1 %	32.0 %	29.9 %
41 to 50 percent	16.4 %	14.5 %	8.5 %
51 to 75 percent	10.5 %	6.0 %	9.6 %
Greater than 75 percent	0 %	1.0 %	1.7 %
Percent of Grantees Offering Selected Services			
Emergency room	100.0 %	99.5 %	98.9 %
Swing beds	65.8 %	69.3 %	72.2 %
Computed axial tomography	54.9 %	62.9 %	71.3 %
Intensive care unit	64.0 %	57.6 %	62.2 %
Magnetic resonance imaging	6.2 %	8.3 %	15.1 %

NOTE: Because of differences in record keeping, some hospitals could not report all data elements. Percentages represent those hospitals reporting the data element.

Hospitals with 50 or fewer beds are more likely to offer swing beds because they do not have to meet the stringent, anti-competitive qualification requirements that hospitals with more than 50 beds do.⁹ For this reason, we expected fewer 1991 grantees to offer swing bed services than 1990 grantees. In fact, the proportion offering swing beds increased. The 1991 grantees offered more swing bed services at award than grantees in earlier years: 72 percent of the 1991 grantees offered swing beds, compared to 66 percent and 69 percent of the 1989 and 1990 grantees, respectively.

At the time of award, like the 1989 and 1990 grantees, almost all of the 1991 grantees offered emergency room services. Three of the 1991 grantee hospitals did not. One grantee is temporarily closed, and is waiting for the licensure approval to become a Medical Assistance Facility.¹⁰ One other hospital reported that it closed its emergency room permanently because it was too costly for the hospital to maintain it. The third grantee had ceased being a hospital at the time of award, and was deemed ineligible for the grant program.

⁹All hospitals that are located in rural areas (as defined by the Census Bureau), have fewer than 100 certified inpatient beds, have received certificate of need approval for provision of long-term care services (in states where certificate of need is required) and do not have in effect a 24-hour nursing waiver (which temporarily allows rural hospitals to operate without 24-hour registered nurse coverage) are eligible to provide post-acute extended care services--commonly called swing beds. A hospital with more than 49 beds (but less than 100) must have an availability agreement with each Medicare-certified skilled nursing facility in its geographic area (unless there are no willing skilled nursing facilities) and must transfer patients within 5 days of learning that a skilled nursing facility bed is available, unless the transfer is not medically appropriate (Commerce Clearing House, 1992, section 482.66).

¹⁰A Medical Assistance Facility is a modified health care facility providing primary care clinic services and limited inpatient acute care services. These facilities are only authorized in Montana.

Technologies like computed axial tomography (CT) scanning services and magnetic resonance imaging (MRI) have become more common in rural areas, an example of rapid technology diffusion. At award, 71 percent of the 1991 grantees offered CT scanning services, whereas only 55 percent of 1989 grantees had offered this service at award. However, since award, the number of 1989 and 1990 grantees offering CT scanning services has increased rapidly. CT scanning was the second most popular service to be added by the 1989 grantees during the first grant year (5 percent added CT scanning services during the first year; see Cheh et al., 1991b). Further, despite high costs, a larger than expected number of 1991 grantees offered MRI services; 15 percent offered these services at award, compared to only 6 percent of 1989 grantees at award.

The larger the hospital, the more likely it is to have a distinct intensive care unit. Almost 20 percent of the 1991 grantees had more than 50 beds, compared to 21 percent of 1989 grantees and 14 percent of 1990 grantees. As expected, they had almost as many ICUs as the 1989 grantees and more than the 1990 grantees.

3. Staffing

Hospital administrators are concerned about physician staffing issues. Over 70 percent of the 1989 grantees identified physician shortages, recruitment, and retention problems as a major problem for their hospital. As a result, over 50 percent used some portion of their grant funds to recruit physicians (Cheh and Wooldridge, 1992). The combination of concern about physician shortages and grant expenditures on recruiting make the grant program's effect on physician staffing a key issue for the evaluation.

At award, the 1991 grantees had an average of 8.9 physicians on staff--approximately 1.5 fewer, on average, than the 1989 grantees, and .5 fewer, on average, than the 1990 grantees (see Table IV.3).¹¹ These hospitals were recruiting more physicians than earlier grantees, however. The smaller number of physicians on staff and larger recruiting goals may be due to the larger number of 1991 grantees in frontier communities; fewer physicians may want to practice in these small communities.

The 1991 grantees offered fewer internal medicine and general surgeon services than their 1989 and 1990 counterparts, a finding that is again consistent with their relative isolation: the further a hospital's location from an urban center, the more difficult it is to recruit physician specialists. Only 57 percent of the 1991 grantees offered internal medicine services, 7 to 8 percent less than the 1989 grantees and 1990 grantees (see Table IV.3).

Consistent with their lower occupancy rates, the 1991 grantees also had fewer nurses than the 1989 and 1990 grantees. The 1991 grantees had, on average, 1.8 fewer full-time equivalent (FTE) registered nurses, 2.6 FTE fewer licensed practical nurses, and 2.8 FTE fewer aides and orderlies than the 1989 grantees (see Table IV.4).

The number of physical therapists on staff was just about the same for the 1989, 1990, and 1991 grantees; each employed or contracted for an average of approximately one physical therapist. This does not imply that every 1991 grantee employed a physical therapist. Many rural hospitals have difficulty recruiting them because of the nationwide shortage of physical therapists. In fact, only 35 percent of the 1991 grantees employ a physical therapist on staff.

¹¹These averages include all physicians on staff with full and courtesy admitting privileges.

TABLE IV.3

PHYSICIAN STAFFING AT AWARD: 1991 GRANTEES,
COMPARED TO 1989 AND 1990 GRANTEES

Characteristic	1989 Grantees (N = 173)	1990 Grantees (N = 205)	1991 Grantees (N = 182)
Average Number of Physicians on Staff	10.4	9.5	8.9
Average Number of Physicians Being Actively Recruited	1.2	2.8	2.7
Percent of Hospitals with Internal Medicine Services	63.8 %	64.9 %	57.1 %
Percent of Hospitals with General Surgeon Services	92.0 %	85.4 %	85.1 %
Percent of Hospitals Recruiting a Physician	54.0 %	77.0 %	86.3 %

NOTE: Because of differences in record keeping, some hospitals could not report all data elements. Percentages represent those hospitals reporting the data element.

TABLE IV.4

NON-PHYSICIAN STAFFING AT AWARD: 1991 GRANTEES,
COMPARED TO 1989 AND 1990 GRANTEES

Characteristic	1989 Grantees (N = 174)	1990 Grantees (N = 205)	1991 Grantees (N = 179)
Registered Nurses			
Average number of FTEs	23.8	23.6	22.0
Average number being actively recruited	3.0	2.5	1.9
Licensed Practical Nurses			
Average number of FTEs	12.4	11.4	9.8
Average number being actively recruited	1.6	0.8	0.6
Aides and Orderlies			
Average number of FTEs	13.0	12.7	10.2
Average number being actively recruited	1.1	0.8	0.6
Physical Therapists			
Average number of FTEs	1.0	1.1	1.1
Average number being actively recruited	0.3	0.2	0.3

NOTE: Because of differences in record keeping, all hospitals could not report all data elements. Percentages represent those hospitals reporting the data element.

FTE: Full-Time Equivalent

Of the 1991 grantees that employed a physical therapist, 16 percent had 1.0 FTEs on staff and 10 percent had 2.0 FTEs on staff. The smallest number of physical therapists employed was .2 FTE, while the largest number employed was 7.8 FTEs, at a 67 bed hospital that also offered skilled nursing services.

4. Finances

Hospitals with stronger finances are more likely to operate their grant projects successfully. This is partly because financially sound hospitals are more likely to have funds in addition to the grant to support and facilitate their projects. Moreover, managers of financially strong hospitals may have more time to devote to their projects because they spend less time on immediate financial problems.

The 1991 grantees had lower revenue in the year prior to the grant award than the 1989 and 1990 grantees, which reflected their lower number of physicians and nurses and lower occupancy rates. The 1991 grantees' median revenue in the fiscal year before the award was more than \$1 million less than the 1989 grantees' and \$500,000 less than the 1990 grantees' revenues, without accounting for inflation (see Table IV.5).¹² The median ratio of total liabilities to total assets (a measure of relative debt burden) and the median operating margin were about the same for the 1989, 1990, and 1991 grantees, however. Thus, the 1991 grantees started from similar levels of debt burden and operating losses as the

¹²Revenues include both operating and nonoperating revenues for inpatient as well as outpatient services.

TABLE IV.5

FINANCIAL INDICATORS IN FISCAL YEAR OF AWARD: 1991 GRANTEES,
COMPARED TO 1989 AND 1990 GRANTEES

Characteristic	1989 Grantees (N = 175)	1990 Grantees (N = 205)	1991 Grantees (N = 180)
Median Total Liabilities: Total Assets	0.46	0.42	0.44
Median Operating Margin ^a	-0.04	-0.05	-0.04
Median Revenue in Fiscal Year Before Award ^b	\$4,506,574	\$3,629,140	\$3,110,483
Percent Grantees with Medicare Reimbursement Status as:			
Sole community hospital	21.1 %	29.3 %	39.4 %
Disproportionate share hospital	9.1 %	13.7 %	18.6 %

NOTE: Because of differences in record keeping, some hospitals could not report all data elements. Percentages represent those hospitals reporting the data element.

^aDefined as $\frac{\text{Net Patient Service Revenue} - \text{Operating Costs}}{\text{Net Patient Service Revenue}}$

^bRevenue includes both operating and nonoperating revenues, inpatient as well as outpatient.

1989 and 1990 grantees (relative to their size), but the 1991 grantees began with a smaller revenue base.

At award, more 1991 grantees qualified for special Medicare reimbursement statuses than their 1989 and 1990 counterparts. These special statuses may improve the grantees' Medicare reimbursement, resulting in relatively stronger financial positions that may help project progress. Two factors accounted for this difference: more of the 1991 grantees were located in relatively isolated geographic areas, and there were large increases in the proportions of rural hospitals with these special statuses from 1989 to 1991. At award, 39 percent of the 1991 grantees were sole community hospitals, compared to 21 percent of the 1989 grantees and 29 percent of the 1990 grantees. Also, 19 percent of the 1991 grantees were disproportionate share hospitals, compared to 9 percent of the 1989 grantees and 14 percent of the 1990 grantees.¹³ As a result of special reimbursement status, the 1991 grantees may receive higher Medicare reimbursement during their grant periods, which may help them complete their projects successfully.

¹³The difference in the proportion of hospitals with special reimbursement status may be partly a result of the timing of project starts. For example, until April 1, 1990, the payment options for sole community hospitals reimbursed some eligible hospitals less than the usual Medicare prospective payment rates (OTA-H-434, p. 65). After April 1, 1990, it became financially beneficial for more hospitals to have sole community hospital status, and, as a result, more hospitals sought such status. In 1991, 2 years after grant award, 36 percent of the 1989 grantees had sole community reimbursement status and 20 percent had disproportionate share status. Thus, the relatively higher proportion of sole community and disproportionate share hospitals among 1990 and 1991 grantees reflects differences at grant award that did not persist throughout the entire grant period.

B. ACTIVITIES COMPLETED

The reporting hospitals made considerable progress during their first 9 months.¹⁴ The majority of the reporting 1991 grantees were on schedule. Respondents identified the availability of financial resources, cooperation with other providers, and the dedication of hospital staff and volunteers as the greatest contributors to successful projects (these were important factors for the 1989 and 1990 grantees too). When the 1991 projects fell behind schedule, the most common reason was the same as that reported by the 1989 and 1990 grantees: the inability to recruit health care professionals.

Two percent of the reporting hospitals had completed all their planned project activities, 57 percent were on or ahead of schedule, and 42 percent were behind schedule by more than 1 month--slightly ahead of the 1989 and 1990 grantees after 1 year (Cheh et al., 1992a).

Grant projects often included multiple activities; some were behind schedule, while others were on or ahead of schedule or completed. In general, the 1991 grantees completed activities they could control, such as purchase of equipment. Thirty-one percent of the 96 hospitals that planned to purchase equipment had done so after 9 months. More surprisingly is that 25 percent of the 49 hospitals that planned construction or renovation had completed the activity after 9 months (see Table IV.6); renovation projects often are delayed by factors outside the grantees' control.

¹⁴Of the 183 grantees participating in the grant program, 176 returned their monitoring reports in time for their data to be included in this report.

TABLE IV.6

DISTRIBUTION OF THE PROGRESS OF PROJECTS AFTER 9 MONTHS BY OBJECTIVE:
1991 GRANTEES

Project Objective	Total Number	Percent Completed	Percent Ahead of Schedule	Percent on Schedule	Percent Behind Schedule by More than One Month
Equipment Purchase	96	31.3 %	1.0 %	53.1 %	14.6 %
Construction or Renovation	49	24.5 %	4.1 %	57.1 %	14.3 %
Recruiting	108	20.4 %	3.7 %	45.4 %	30.6 %
Training or Staff Development	84	16.7 %	2.4 %	76.2 %	4.8 %
Planning or Market Analysis	67	14.9 %	1.5 %	67.2 %	16.4 %
Swing Beds	7	14.3 %	--	57.1 %	28.6 %
Education, Prevention, or Wellness Programs	69	10.1 %	2.9 %	79.7 %	7.2 %
Inpatient or Hospice Service	30	10.0 %	3.3 %	63.3 %	23.3 %
Outpatient Service	53	7.5 %	3.8 %	71.7 %	17.0 %
Rural Health Network	69	7.2 %	1.4 %	75.4 %	15.9 %
Clinic	52	5.8 %	5.8 %	65.4 %	23.1 %
Emergency Medical Services	20	5.0 %	--	80.0 %	15.0 %
Other Health Service	7	--	--	57.1 %	42.9 %
Other	21	9.5 %	--	66.7 %	23.8 %
Total	171 ^a	1.8 %	0.6 %	56.1 %	41.5 %

NOTES: Totals may not add to 100 percent due to rounding error. Only grantees that were still active at the end of 9 months are included.

Progress is tracked by the project's most delayed activity. For example, a project that is on schedule in only one activity and ahead of schedule in all the rest is defined to be on schedule.

^aFive hospitals did not report timeliness.

Many of the 1991 grantees that introduced new services or enhanced existing services were on or ahead of schedule. Nearly 83 percent of patient education activities and 80 percent of emergency medical services were ahead of or on schedule at the end of 9 months. In contrast, only 29 percent of the 1990 grantees that were upgrading emergency medical services were on or ahead of schedule at the end of their first year.

Projects that implemented "other" types of health services (for example, medical transportation services for elderly people) were the most likely to be delayed: 43 percent were behind schedule. Also, just as we found with the 1989 and 1990 grantees, projects that involved recruiting were likely to be delayed: 31 percent were behind schedule at the end of 9 months.

C. PROBLEMS ENCOUNTERED

Although hospitals reported progress, many also encountered problems. The most frequently mentioned difficulties were:

- Inability to recruit or retain health care professionals (cited by 32 percent)
- Administrative and operational difficulties (cited by 24 percent)

Hospitals that reported physician recruitment and retention were a problem offered various explanations for these difficulties, including the fact that a limited number of health care professionals are willing to practice in rural areas and rural areas generally offer less lucrative financial packages. These problems frustrate recruiting efforts, forcing many hospitals to manage their projects with less than the optimal number or mix of staff.

Hospitals reporting administrative and operational difficulties indicated that lack of communication and coordination within hospital departments and the overwhelming paperwork involved in implementing new programs often thwart progress. Many of the 1989 and 1990 grantees eventually found ways to overcome these barriers; it remains to be seen if the 1991 grantees can do the same.

D. PROJECT MODIFICATIONS

Three of the 1991 grantees reported major changes in scope during the second reporting period. Typically, these grantees modified their projects after learning that certain aspects were either unnecessary or economically unfeasible. As a result, they reevaluated their projects and changed their focus.

The first hospital, after assessing its project objectives, canceled its original goal of opening a radiology unit because of space limitations and difficulties in recruiting a radiological technologist. Instead, this hospital refocused on recruiting physician specialists and a physician assistant for outpatient clinics. The second hospital, which lost two family physicians, decided to start physician recruitment rather than implement a physical therapist scholarship program for local students. The third hospital tabled its plan to open a pediatric psychiatric unit after realizing the service was economically unfeasible. The hospital rechanneled part of its grant funds to recruit both primary care and specialist physicians.

E. GRANT EXPENDITURES

HCFA awarded \$8,177,255 in first-year RHCT grants to 187 hospitals in fiscal 1991. After four hospitals withdrew from the grant program, the amount fell to \$7,977,255. Nine months after HCFA made the awards, the reporting hospitals had spent \$4,740,910, accounting for 59 percent of the obligated first-year grant funds.

Nine months after award, 69 percent of the grant expenditures were in the following three categories:

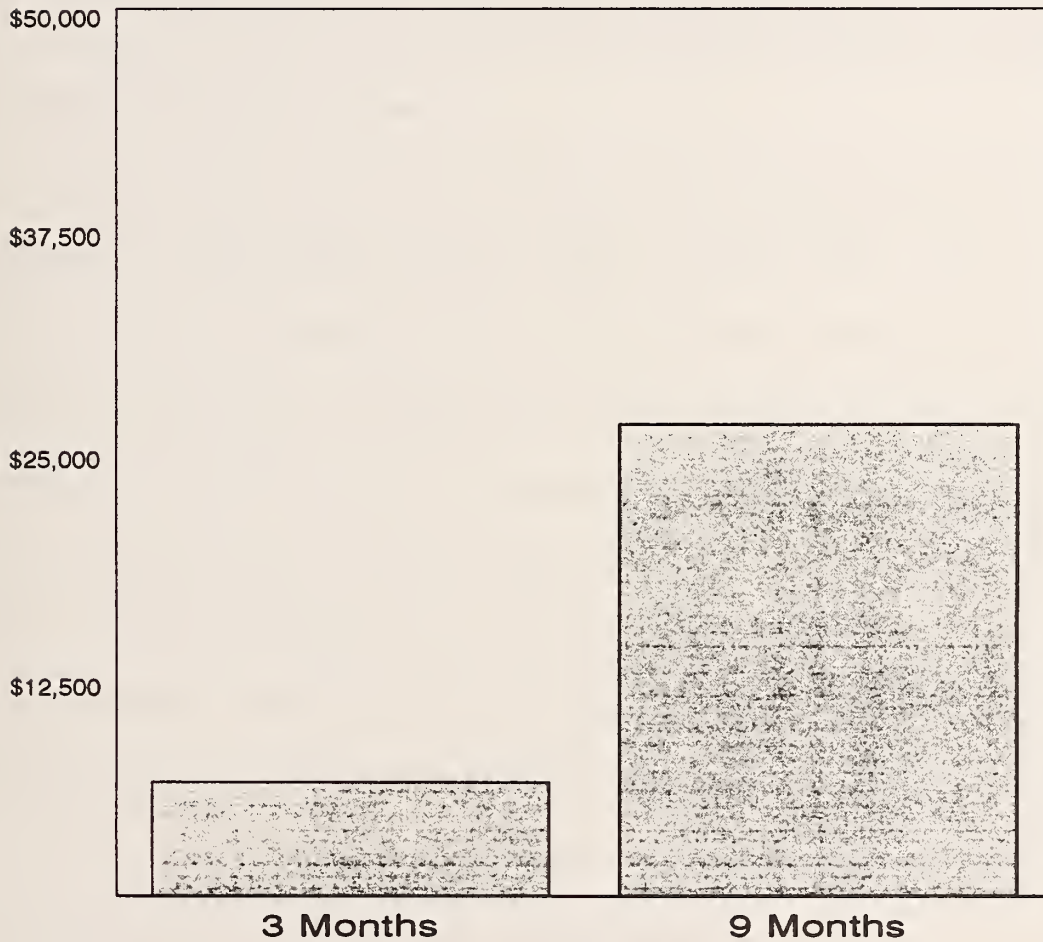
- Salary and fringe benefits: \$1,271,225 (35.6 percent)
- Non-physician contracts: \$650,967 (18.2 percent)
- Equipment and capital: \$552,967 (15.5 percent)

These figures were quite similar to those reported by the 1990 grantees after 1 year. At the end of their first year, salary and fringe benefits and equipment and capital expenses were slightly higher (37 and 22 percent, respectively), and non-physician contract expenses were the same (18 percent) (Cheh et al., 1992a).

During the first 9 months, the average spending per 1991 grantee was \$20,187 (see Figure IV.1). This spending represented 47 percent of the 1991 grantees' average first-year grant award (\$43,108). Three months into their projects, grantees had spent an average of \$6,411, 15 percent of their average first-year grant award. The lower average spending reported during the first 3 months was due to lag time in getting grant projects started.

FIGURE IV.1

AVERAGE GRANT EXPENDITURES AFTER 9 MONTHS,
1991 GRANTEES



NOTE: Cumulative average expenditures, all grantees.

At 9 months, two of the reporting 1991 grantees had already spent one-third of their grants on capital items, the legislative limit.¹⁵ Not surprisingly, these two hospitals' projects involved capital-intensive activities--constructing a 14-unit assisted living facility and purchasing equipment for a respiratory therapy department. These hospitals will not violate the legislation if all of their future RHCT grant expenses are for non-capital items.

F. EFFECTS OF PHYSICIAN LOSSES AND ADMINISTRATIVE CHANGES ON THE GRANT PROGRESS AND FINANCIAL STATUS OF THE 1991 GRANTEES

1. Effects of Physician Losses

Physician retention is critical for vulnerable rural hospitals, and those that cannot retain physicians are likely to close (Morrisey, Kletke, and Marder, 1991). When a physician leaves an area, inpatient admissions are likely to drop, decreasing hospital revenues. (This assumes that the physician was admitting patients prior to departure.) Even if a new physician is recruited immediately to replace the departing physician, it takes time for the new physician to build a practice and for inpatient admissions to rise to the previous level. If it takes a long time to recruit a new physician, area residents may establish ties with other physicians who admit elsewhere, making it even more difficult to regain inpatient admissions. Financially sound hospitals may be able to weather such downturns; those that are financially weak may not survive. Thus it is important to consider the effects of physician losses on RHCT grant projects, as well as on the hospitals' financial condition.

¹⁵A RHCT grantee may not spend more than one-third of its RHCT grant funds for capital-related costs unless it is converting to a Primary Care Hospital (Omnibus Budget Reconciliation Act of 1987 [P.L. 101-239], Section 4005 [e]).

During autumn 1992, we interviewed the 20 1991 grantees with the highest proportional physician losses since grant award to analyze the impact of those losses on hospital functioning.¹⁶ More than half (55 percent) of the hospitals interviewed were located in the Midwest census region, 25 percent were located in the West census region, and 20 percent were located in the South census region. Of the 23 reported physician losses, 16 moved to another location, 5 retired, and 2 died unexpectedly (one physician died in an automobile accident and the other died of cancer).

Most of the physician losses (13) were expected, but 7 hospitals faced unexpected losses. It took the hospitals an average of 9 months to replace lost physicians, but some hospitals indicated it would take them up to 18 months.

Five of the hospitals indicated that physician losses disrupted their RHCT grant projects. For example, a hospital in the Midwest that lost one physician shifted the focus of its RHCT grant project from expanding physician clinic services to maintaining services until the hospital recruited another physician. One hospital with a case management project lost one of its two physicians, which translated into fewer patients being admitted to the hospital and fewer patients needing case management services.

An overwhelming majority (90 percent) of the hospitals interviewed indicated that physician losses hurt them financially. In many cases, the physicians who left were the hospitals' biggest admitters; losing them caused decreased admissions. At one hospital in the

¹⁶Twenty-three physicians left the 20 targeted hospitals. The worst case was a hospital in the Midwest that lost its only physician. The median physician loss as a proportion of all physicians present was one-fourth.

Midwest, a physician loss caused admissions to drop 50 percent. Another hospital in the Midwest indicated that its bed days dropped 77 percent after its physician loss.

Another effect of physician loss has been decreased access to physician services. Other physicians on staff are not always able to pick up the extra patients because they may already be overworked. Thus, people often leave the area for physician services because they cannot get a doctor's appointment. This loss of patients, in addition to the high cost of recruiting physicians and maintaining locum tenens, has financially burdened many of these hospitals.

In a few cases, however, the physician loss did not affect the hospital adversely; indeed, in one case the physician's departure helped the hospital. In this case a recently recruited surgeon left when it became apparent that the area could not support a surgeon financially. The hospital administrator was relieved by the surgeon's departure because the hospital was paying the surgeon an income guarantee.

2. Effects of Administrative Changes

High administrative turnover is common in rural hospitals. Thirty-one (18 percent) of the reporting 1991 grantees changed hospital administrators at least once in the last 6 months. Among the 20 hospitals targeted for telephone interviews because of physician losses, 7 (35 percent) changed administrators at least once since the beginning of 1992.

In four of these seven cases, administrator losses did not affect project progress. In two cases, however, administrator losses did disrupt grant progress. Because these two hospitals had recently lost physicians, the new administrators were so busy recruiting physicians that they had little time for the grant project. Consequently, these RHCT projects fell behind schedule.

In one case, a two-hospital consortium, an administrator loss strengthened the relationship of the two consortium members. The administrator loss at one of the two hospitals allowed the consortium to work together more closely, recruit a new administrator jointly, and increase coordination between hospitals.

V. 1992 GRANT SOLICITATION PROCESS AND APPLICANT CHARACTERISTICS

A. SOLICITING AND SCORING THE APPLICATIONS AND SELECTING GRANTEEES

The Health Care Financing Administration (HCFA) solicited applications to the 1992 Rural Health Care Transition (RHCT) grants program by sending letters and application forms to more than 2,500 rural, non-profit hospitals. To be eligible for a grant, a hospital had to be a non-Federal, non-proprietary, short-term, general acute care hospital with fewer than 100 beds and had to be classified as a rural hospital under Medicare's Prospective Payment System.¹ Hospitals that received grants in 1990 or 1991 and accepted maximum grant funding for their continuation in 1992 were ineligible.² HCFA received 310 proposals, 284 from individual hospitals and 26 from 103 hospitals organized into consortia.

Technical panels reviewed and scored the applications based on five criteria mandated by Congress, including the applicant's understanding of its problems, the likelihood of a successful impact, the potential for improving access to care, the degree of community coordination, and the potential to reduce Medicare expenditures. The panels submitted scores to HCFA in

¹P.L. 100-203, Sec 4005(e).

²Because the 1989 grantees completed their grant projects this year, they were eligible to apply for the 1992 RHCT grants program. Also, any 1990 or 1991 grantees that gave up their grant funding or had less than maximum grant funding were eligible to apply for the 1992 RHCT grants program. A total of 23 1989 grantees, 7 1990 grantees, and 10 1991 grantees received 1992 awards.

June 1992. The scores were then normalized using standard statistical techniques to account for panel variation.³

HCFA used two guidelines to select the grant award winners: merit (as reflected by proposal scores) and the equitable distribution of funds across states. HCFA used the same two-stage process to select the 1992 grantees that it used to select the 1989, 1990, and 1991 grantees. Across states, HCFA allocated funds in proportion to the number of eligible hospitals. Within states, awards were made up to the ceiling on the basis of merit. HCFA then awarded the remaining funds on the basis of merit without regard to state. Because some states had few applicants, all of whom might be selected at the first stage, only proposals deemed acceptable for award by the technical panels were awarded grants.

HCFA awarded 163 grants to 163 hospitals--117 grants to individual hospitals and 46 grants to hospitals in 10 consortia. It awarded \$4,585,310 from the State pools and \$2,270,349 from the National pool for a total of \$6,855,659. Appendix B lists the 1992 grantees and their first year grant amounts by state.

³See Appendix C for information on the score adjustment process.

B. GEOGRAPHIC DISTRIBUTION OF THE APPLICANTS

HCFA received 310 proposals from 387 applicants for the 1992 RHCT grants program (see Table V.1). Less than 20 percent of eligible hospitals applied for grants.⁴ Applications came from 44 of 46 states with eligible hospitals.⁵

The highest application rate occurred in the Mountain census division, where 31 percent of eligible hospitals applied for grants.⁶ More than 40 percent of eligible hospitals in Colorado, Maryland, Nebraska, Nevada, and South Dakota applied for grants. Minnesota, with 95 eligible hospitals, had the most applications of any state (33).

The lowest application rate occurred in the New England census division, where only 10 percent of eligible hospitals applied for grants.⁷ In Texas, which had the largest number of eligible hospitals nationwide, only 13 percent of eligible hospitals applied for grants. Further, less than 5 percent of eligible hospitals in Florida and Washington applied for grants.

⁴HCFA supplied counts of eligible hospitals by State. The total number was 1,960 eligible hospitals, as shown in Table V.1.

⁵This does not include Puerto Rico, which has three eligible hospitals, one of which applied for and won a grant. Two states with eligible hospitals did not apply for a 1992 RHCT grant--Massachusetts (with two eligible hospitals) and Hawaii (with eight eligible hospitals).

⁶In addition, 21 percent of the eligible hospitals in the Mountain census division already had grants continuing beyond 1992.

⁷But 38 percent of the eligible hospitals in the New England census division already had grants continuing beyond 1992.

TABLE V.1

1992 GRANT PROGRAM FOR RURAL HEALTH CARE TRANSITION: ELIGIBLE HOSPITALS, PROPOSALS RECEIVED, AND AWARDS

Census Division and State	Number of Eligible Rural Hospitals	Percentage of Eligible Hospitals Nationwide	Number of Proposals Received	Number of Hospitals that Applied	Percentage of Eligible Hospitals that Applied	Number of Awards	Percentage of Eligible Hospitals Awarded Grants	Funding Level (\$)	Percentage of Total Funding
New England									
Maine	17	0.87	2	2	11.76	2	11.76	100,000	1.46
Massachusetts	2	0.10	0	0	0.00	0	0.00	0	0.00
New Hampshire	11	0.56	1	1	9.09	1	9.09	50,000	0.73
Vermont	10	0.51	1	1	10.00	1	10.00	50,000	0.73
Connecticut	0	0.00	0	0	0.00	0	0.00	0	0.00
Total	40	2.04	4	4	10.00	4	10.00	200,000	2.92
Middle Atlantic									
New York	30	1.53	2	2	6.67	2	6.67	99,928	1.46
Pennsylvania	15	0.77	2	2	13.30	1	6.67	50,000	0.73
Puerto Rico	3	0.15	1	1	33.33	1	33.33	50,000	0.73
Total	48	2.45	5	5	10.42	4	8.33	199,928	2.92
South Atlantic									
Florida	23	1.17	1	1	4.35	1	4.35	50,000	0.73
Georgia	75	3.83	6	6	8.00	3	4.00	150,000	2.19
Maryland	3	0.15	2	2	66.67	1	33.33	50,000	0.73
North Carolina	42	2.14	6	6	14.29	1	2.38	50,000	0.73
South Carolina	18	0.92	2	2	11.11	1	5.56	50,000	0.73
Virginia	22	1.12	4	4	18.18	1	4.55	40,037	0.58
West Virginia	26	1.33	4	6	23.08	1	3.85	50,000	0.73
Total	209	10.66	25	27	12.92	9	4.31	440,037	6.42
East South Central									
Alabama	45	2.30	5	12	26.67	2	4.44	100,000	1.46
Kentucky	49	2.50	3	3	6.12	2	4.08	100,000	1.46
Mississippi	68	3.47	5	8	11.76	1	1.47	50,000	0.73
Tennessee	49	2.50	7	7	14.28	4	8.16	195,017	2.84
Total	211	10.77	20	30	14.22	9	4.27	445,017	6.49

TABLE V.1 (continued)

Census Division and State	Number of Eligible Rural Hospitals	Percentage of Eligible Hospitals Nationwide	Number of Proposals Received	Number of Hospitals that Applied	Percentage of Eligible Hospitals that Applied	Number of Awards	Percentage of Eligible Hospitals Awarded Grants	Funding Level (\$)	Percentage of Total Funding
West South Central									
Arkansas	47	2.40	9	9	19.15	1	2.13	49,016	0.71
Louisiana	56	2.86	9	9	16.07	5	8.93	250,000	3.65
Oklahoma	69	3.52	10	10	14.49	3	4.35	150,000	2.19
Texas	177	9.03	23	23	12.99	10	5.65	499,098	7.28
Total	349	17.81	51	51	14.61	19	5.44	948,114	13.83
West North Central									
Iowa	91	4.64	13	15	16.48	6	6.59	267,400	3.90
Kansas	102	5.20	11	11	10.78	6	5.88	288,065	4.20
Minnesota	95	4.85	33	34	35.79	12	12.63	598,605	8.73
Missouri	53	2.70	8	8	15.09	5	9.43	247,002	3.60
Nebraska	74	3.78	18	30	40.54	13	17.57	285,700	4.17
North Dakota	40	2.04	10	10	25.00	4	10.00	200,000	2.92
South Dakota	49	2.50	11	26	53.06	5	10.20	161,000	2.35
Total	504	25.71	104	134	26.59	51	10.12	2,047,772	29.87
East North Central									
Illinois	57	2.91	8	8	14.04	6	10.53	294,580	4.30
Indiana	31	1.58	8	8	25.80	1	3.22	50,000	0.73
Michigan	56	2.86	5	11	19.64	4	7.14	200,000	2.92
Ohio	32	1.63	3	3	9.38	1	3.13	46,900	0.68
Wisconsin	57	2.91	11	17	29.82	7	12.28	330,000	4.81
Total	233	11.89	35	47	20.17	19	8.16	921,480	13.44
Mountain									
Arizona	28	1.43	7	7	25.00	4	14.29	200,000	2.92
Colorado	41	2.09	7	17	41.46	9	21.95	168,950	2.46
Idaho	34	1.73	8	8	23.53	3	8.82	136,600	1.99
Montana	47	2.40	10	16	34.04	12	25.53	317,884	4.64
Nevada	11	0.56	1	7	63.64	7	63.64	240,000	3.50
New Mexico	26	1.33	5	5	19.23	2	7.69	97,581	1.42
Utah	19	0.97	4	5	26.32	1	5.26	50,000	0.73
Wyoming	20	1.02	6	6	30.00	4	20.00	155,495	2.27
Total	226	11.53	48	71	31.42	42	18.58	1,366,510	19.93

TABLE V.1 (continued)

Census Division and State	Number of Eligible Rural Hospitals	Percentage of Eligible Hospitals Nationwide	Number of Proposals Received	Number of Hospitals that Applied	Percentage of Eligible Hospitals that Applied	Number of Awards	Percentage of Hospitals Awarded Grants	Funding Level (\$)	Percentage of Total Funding
Pacific									
Alaska	18	0.92	3	3	16.67	2	11.11	100,000	1.46
California	47	2.40	7	7	14.89	1	2.13	36,806	0.54
Hawaii	8	0.41	0	0	0.00	0	0.00	0	0.00
Oregon	29	1.48	7	7	24.14	2	6.89	99,995	1.46
Washington	38	1.94	1	1	2.63	1	2.63	50,000	0.73
Total	140	7.14	18	18	12.85	6	4.29	286,801	4.18
GRAND TOTAL	1,960	100.00	310	387	19.74	163	8.32	6,855,659	100.00

NOTE: This table was produced by National BioSystems.

C. COUNTY CHARACTERISTICS OF APPLICANTS AND GRANTEES

The success of the Rural Health Care Transition grant program will be influenced by the health care environment. If the area characteristics of grantees are similar to those of all rural hospitals, then any success achieved under this program has the potential to be replicated in other rural areas.

As reported earlier, the 1989 and 1990 grantees were located in areas that were generally representative of all rural hospitals (Cheh et al., 1990a; Cheh, Condon, and Wooldridge, 1991a). We also found that the 1991 grantees were located in areas that had some slightly different social and economic characteristics than all rural hospitals (Cheh et al., 1992a). Like the 1991 grantees, the 1992 grantees were also located in areas that differed slightly socially and economically from all rural hospitals.

To compare area characteristics, we defined four groups: (1) counties with hospitals eligible for the program; (2) counties with hospitals applying for a grant in 1992; (3) counties with hospitals awarded a grant in 1992; and (4) counties with hospitals not awarded a grant in 1992.⁸ For comparability with grantees from earlier years, we present data available for the 1989 grantees, even when more recent data were available for 1992 grantees.

1. Social and Economic Characteristics

The population density, racial composition, and economic characteristics of areas with 1992 applicants and grantees differed somewhat from those of all areas with eligible hospitals.

⁸See Appendix D for details on data sources.

These differences suggest that the 1992 grantees may face slightly different environments than the typical eligible hospital, which may affect the success of the 1992 grant projects.

Compared to all eligible hospitals, the 1992 applicants and grantees were located in counties with lower population densities. In particular, the median population density for 1992 grantees was 29 percent lower than that of eligible hospitals (17.6 persons per square mile for 1992 grantees compared with 24.8 persons per square mile for all eligible hospitals--see Table V.2). The difference in population density was likely due to the large number of funded frontier hospitals (hospitals located in counties with six or fewer persons per square mile); 30 percent of the 1992 grantees (49 hospitals) were in frontier areas. Because 58 percent of frontier hospitals are publicly owned (Rubin et al., 1991) and likely have faced tax revenue losses caused by the economic recession, these hospitals may have had greater need for the program and were therefore more likely to have applied for and received funding.

The racial composition of areas with 1992 applicants and grantees also differed slightly from that of all areas with eligible hospitals. The 1992 grantees were located in counties that had a lower proportion of blacks and a higher proportion of whites and American Indians than the proportions for all eligible hospitals. This difference was due to the large proportion of 1992 grantees located in the Mountain census division and the Midwest census region, which both had a lower proportion of blacks and higher proportion of whites and American Indians than other divisions and regions.

TABLE V.2

SOCIAL AND ECONOMIC CHARACTERISTICS OF COUNTY: 1992 APPLICANTS

Characteristics	Eligible Hospitals	Grant Applicants	Funded Grants	Non-Funded Applicants
Demographics (Median Values)				
Population Density Per Square Mile ^a	24.8	19.9	17.6	20.9
Percent of Population 65 Years or Older ^b	14.3	14.5	13.9	14.8
Racial Composition^b (Mean Values)				
Percent Black	6.8	5.4	4.0	6.2
Percent American Indian	1.6	2.2	2.6	1.8
Percent White	89.4	90.8	91.5	90.4
Economic Characteristics (Median Values)				
Annual Per Capita Income ^c	\$11,368	\$11,382	\$11,515	\$11,338
Unemployment Rate ^d	7.6	7.1	7.1	7.0
Percent of Population 65 Years and Older in Poverty Status ^b	17.6	17.5	16.6	18.3
Health Status Indicators (Median Values)				
5-Year Infant Mortality Rate Per 1,000 Live Births ^e	10.4	10.2	10.5	10.0
Mortality Rate Per 1,000 ^f	10.4	10.4	10.3	10.5

NOTE: This table does not include information on Puerto Rico.

^a1987 population estimates divided by land area in square miles.

^b1980 Census data. Columns do not add to 100 percent because "other" ethnicities are not shown.

^c1986 per capita data from the 1969-1986 Local Area Personnel Income Tape, U.S. Department of Commerce, Bureau of Economic Analysis.

^d1987 Bureau of Labor Statistics.

^e1981-1985, National Center for Health Statistics.

^fNumber of reported deaths in 1985 divided by 1985 population estimates, National Center for Health Statistics.

The economic status of areas with funded grant sites was slightly better than that of all areas with eligible hospitals. The annual per capita income of grantee areas was slightly higher than that for applicant areas and all eligible areas (\$11,515 for grantee areas, \$11,382 for applicant areas, and \$11,368 for all eligible areas), and the unemployment rate of grantee areas was lower than that for all eligible areas (7 percent and 8 percent, respectively). Further, the median percent of population 65 years and older in poverty was lower for grantee areas (17 percent) than for applicant areas and all eligible areas (both 18 percent).

Health status indicators were virtually the same in areas with 1992 grantees and areas with applicants and eligible hospitals. The median 5-year infant mortality rate was 10.5 per thousand live births for grantee areas and 10.4 per thousand for all eligible areas. And the median annual mortality rate for the entire population was 10.3 per thousand for grantee areas and 10.4 per thousand for both all eligible areas and applicants' areas.

2. Access to Facilities

Even though the 1992 grantee hospitals were located in less densely populated areas than all eligible hospitals, residents in both types of areas had similar access to hospital services. Funded areas had slightly more hospital beds per 1,000 persons in 1987 than eligible areas (4.7 and 4.6 hospital beds, respectively). (See Table V.3.) Funded hospitals, however, were in areas that had fewer hospitals per square mile (1.6 hospitals per 1,000 square miles for funded areas compared with 1.9 hospital beds per 1,000 square miles for eligible areas) because funded hospitals were located in areas of lower population density.

TABLE V.3

COUNTY SUPPLY OF SERVICES AND FACILITIES:
1992 APPLICANTS

Characteristic	Eligible Hospitals	Grant Applicants	Funded Grants	Non-Funded Applicants
Number of Hospital Beds Per 1,000 Population ^a	4.6	5.1	4.7	5.6
Number of Hospitals Per 1,000 Square Miles	1.9	1.8	1.6	1.9
Medicare Inpatient Days Per Person Over 65 Years	4.8	5.1	5.3	5.2
Medicare Outpatient Visits Per Person Over 65 Years	5.2	5.3	5.7	4.9

SOURCE: Area Resource File.

^aFrom 1987 County Hospital file; population estimate (1987) from U.S. Bureau of Census.

Funded areas averaged more Medicare inpatient days and outpatient visits than all areas with eligible hospitals. Funded areas averaged 5.3 Medicare inpatient days and 5.7 Medicare outpatient visits per beneficiary, while all eligible areas averaged 4.8 Medicare inpatient days and 5.2 Medicare outpatient visits per beneficiary. The difference can be explained by three factors: (1) 1992 grantees were probably slightly larger hospitals because they were in areas with slightly more hospital beds per 1,000 population; (2) 1992 funded areas appeared to have higher utilization per hospital bed, and hospitals in these areas were perhaps more efficient; and (3) 1992 grantees were located in relatively more sparsely populated geographic areas. Because of the large proportion of frontier hospitals (30 percent of the 1992 grantees), Medicare beneficiaries in these areas may have had to travel long distances to get more specialized care. Thus, Medicare beneficiaries were likely to spend slightly more time at local hospitals, instead of traveling farther for care, because of long distances and lack of transportation.

3. Health Professional Shortages

The availability of health care professionals governs access to health care. The 1992 grants were awarded disproportionately to hospitals located in Health Professional Shortage Areas (HPSAs). More than half of the 1992 grantees (55 percent) were located in areas designated as HPSAs in 1987 because of the limited availability of physicians (see Table V.4). This proportion was lower for eligible and applicant hospitals' counties (49 percent and 50 percent, respectively).

TABLE V.4

PERCENTAGE OF HOSPITALS LOCATED IN COUNTIES DESIGNATED AS
HEALTH PROFESSIONAL SHORTAGE AREAS (HPSAs) IN 1987 AND WITH
A NATIONAL HEALTH SERVICE CORPS (NHSC) SITE
IN 1986: 1992 APPLICANTS

Characteristic	Eligible Hospitals	Grant Applicants	Funded Grants	Non-Funded Applicants
Percentage of Hospitals in Counties without HPSA Designation	50.9	50.3	45.1	54.7
Percentage of Hospitals in Counties with Partial or Whole County HPSA Designation	49.1	49.7	54.9	45.3
Percentage of Hospitals in Counties with a Staffed NHSC Site	46.8	48.7	50.6	47.1

SOURCE: Area Resource File.

Fifty-one percent of the 1992 grantees were located in counties with a staffed National Health Service Corps (NHSC) site in 1986. This proportion was higher than the 47 percent of eligible areas and the 49 percent of applicant areas with a staffed NHSC site.

D. FEDERAL AND EXTERNAL FUNDING AND LOCAL COOPERATION

1. Federal Funding Amounts

Most of the 310 proposals to the 1992 RHCT grants program requested 3 years of funding. The 1992 applicants requested \$17,168,896 for the first year, \$16,682,200 for the second year, and \$15,473,016 for the third year. Funding requests for the second and third years were lower than those for the first year for two reasons: (1) some hospitals planned to complete their projects in fewer than 3 years; and (2) some hospitals expected their project revenues to increase during the 3-year period, offsetting their need for Federal subsidies.

The funds requested exceeded the amount available for the program. Thus, HCFA used the selection process described earlier to choose the 1992 grantees. Just over \$6.8 million was awarded to 127 proposals for fiscal 1992.⁹ The majority of the grants were for \$50,000 per year for 3 years. The largest total amount awarded was \$150,000 over 3 years; the smallest total amount was \$5,160.

⁹Among the grantees, 117 individual hospitals submitted 117 proposals, and 46 hospitals in 10 different consortia submitted 10 different proposals. Thus, 163 hospitals received grants.

2. External Funding

HCFA encouraged grant applicants to seek external funding to complement grant funds and asked them to report any external funding support for a project. Grant review panels were instructed to consider external project funding as evidence of community coordination and to rank applicants higher if they had good community coordination. Thus, having external funding increased the likelihood that proposed projects would receive Federal funds.

The broad definition of external funding, the various methods used by hospitals to quantify "in-kind" support, and the softness of funding commitments suggest caution in interpreting data provided by hospitals on external funding (see Table V.5).

Typical sources of external funding reported by applicants were the hospital itself and the auxiliary associated with the hospital. Many hospitals indicated that they intended to supplement grant funds with funds they had already committed to the project or with funds that would be committed if they received a grant. Typically, non-grant monies were slated for equipment purchases needed for a project because equipment costs often exceeded the one-third capital budget limit imposed by Congress on grant expenditures.

Another common source of proposed external funding was project revenue. Some hospitals showed revenue projections and indicated these revenues would be used to fund future project costs. Other hospitals indicated that they expected project revenues to make up the difference between expected costs and the amount requested from the program.

The median value of external financing was \$110,328 for the 1992 grantees and \$68,777 for the other applicants, consistent with the applicant scoring criteria (see Table V.5). Seven

TABLE V.5

OTHER FUNDING OF FUNDED AND NON-FUNDED PROPOSALS:
1992 APPLICANTS

Amount of Financing	Funded Proposals	Non-Funded Proposals
Median Value of External Financing	\$110,328	\$68,777
Maximum Value of External Financing	\$1,136,007	\$2,366,500
Number of Proposals with No External Financing	7	27
Number of Proposals	127	183

of the 127 funded proposals (6 percent) proposed no external financing, and 27 of the 183 non-funded applicants' proposals (15 percent) proposed no external financing.

E. COMPARISON OF 1989, 1990, 1991, AND 1992 APPLICANTS

The total number of applicants for the RHCT grants program dropped from 704 in 1989 to 502 in 1990, 445 in 1991, and 387 in 1992.¹⁰ This decrease was the result of three factors: (1) the pool of eligible hospitals was reduced, because some hospitals that were eligible in 1989, 1990, and 1991 closed or were reclassified as urban for Medicare prospective payment and were thus no longer eligible for the program; and because the hospitals that received grants in either 1990 and 1991 and received maximum grant funding for their continuation in 1992 could not immediately benefit from a 1992 award and hence had limited incentive to apply;¹¹ (2) some of the 1989, 1990, and 1991 applicants that were not awarded grants became discouraged and did not apply in 1992; and (3) the pool of hospitals that had never applied for an RHCT grant was shrinking.

The average annual grant funding requested per applicant decreased between 1989 and 1990 and then stayed fairly constant. The 1989 applicants requested an annual average of \$43,398 (a total of \$86,795 over a 2-year period); the 1990 applicants requested an annual average of \$39,889 (a total of \$119,667 over a 3-year period); the 1991 applicants requested

¹⁰These totals include all applicants, including hospitals that applied more than once.

¹¹Hospitals with maximum funding in 1992 from an award in 1990 and 1991 could secure future grant financing by receiving a 1992 award (assuming that the future funding is authorized by Congress). A few grantees felt this incentive was enough to apply in 1992, despite having a 1990 or 1991 award.

an annual average of \$40,336 (a total of \$121,008 over a 3-year period); and the 1992 applicants requested an annual average of \$39,799 (a total of \$119,378 over a 3-year period).

Since the RHCT grants program began in 1989, the trend has been a decrease in applications from the Northeast and South census regions and an increase in applications from the Midwest and West census regions (see Table V.6). The proportion of applicants from the South census region fell from 40 percent in 1989 to 29 percent in 1990 and has since remained between 28 and 30 percent, about 9 percentage points less than would be expected based on the proportion of eligible hospitals in the region. In turn, the proportion of applicants from the West census region rose from 18 percent in 1989 to 23 percent in 1992. The proportion of applicants from the Northeast census region decreased from 6 percent in 1989 to 2 percent in 1992, and the proportion of applications from the Midwest census region increased from 36 percent in 1989 to 47 percent in 1992.

Applications for grants from hospitals in low density counties have increased since the grant program began in 1989. By 1992, the median population density had fallen 16 percent, from 23.6 persons per square mile in 1989 to 19.9 persons per square mile. Further, applicants were located in counties with slightly more hospital beds than earlier applicants. These differences were due to the shift in the distribution of applications from the Northeast and South census regions to the Midwest and West census regions.

Otherwise, the 1989, 1990, 1991, and 1992 applicants were located in areas with similar characteristics. There was less than a 10 percent difference between 1991 and 1992 grant



TABLE V.6

COMPARISON OF THE AREA CHARACTERISTICS OF THE
1989, 1990, 1991 AND 1992 GRANT APPLICANTS
(At Time of Award)

	1989	1990	1991	1992
Number of Applicants	704	502	445	387
Percent Distribution by Region				
Northeast	6 %	3 %	4 %	2 %
Midwest	36 %	51 %	46 %	47 %
South	40 %	29 %	30 %	28 %
West	18 %	17 %	20 %	23 %
Area Characteristics (Medians)				
Population Density Per Square Mile ^a	23.6	21.4	20.3	19.9
Percentage of Population 65 Years and Older ^b	14.3 %	15.1 %	14.9 %	14.5 %
Percentage of Population Black ^b	7.1 %	5.3 %	4.7 %	5.4 %
Annual Per Capita Income ^c	\$11,166	\$11,499	\$11,423	\$11,382
5-Year Infant Mortality Rate Per 1,000 Live Births ^d	10.4	10.4	10.2	10.2
Number of Hospital Beds Per 1,000 Population ^f	4.4	4.8	4.6	5.1
Percentage of Hospitals in Counties with Full or Partial HPSA Designation (1987)	50.8 %	50.2 %	47.4 %	49.7 %

^a1987 population estimates divided by land area in square miles.

^b1980 Census data.

^c1986 per capita data from the 1969-1986 Local Area Personnel Income Tape, U.S. Department of Commerce, Bureau of Economic Analysis.

^d1981-1985, National Center for Health Statistics.

^fFrom 1987 County Hospital file; population estimate (1987) from U.S. Bureau of Census.

applicants in the percentage of elderly people, 5-year infant mortality rate, annual per capita income, number of hospital beds per 1,000 population, and percentage of hospitals in counties with a HPSA designation (see Table V.6).

F. COMPARISON OF 1989, 1990, 1991, AND 1992 GRANTEES

The grantee selection process gave considerable weight to ensuring wide geographic distribution of grantee hospitals, which limits variability in the proportion of grants awarded by region. Nevertheless, there have been changes over time. The proportion of awards in the Northeast has varied between 3 and 8 percent, with 5 percent in 1992. The proportion of awards in the South has fallen over time, from 34 percent to 23 percent of the total in 1992--following the trend in the application rate. The proportion of awards in the Midwest has varied between 40 and 47 percent, with 43 percent in 1992. In the West, the percentage of awards has followed the percentage of applications closely, except in 1992 when it rose to 29 percent. This is explained partly by an award to a statewide consortium of seven hospitals in Nevada (see Table V.7).

The area characteristics of the 1992 grantees differed from those of the 1989, 1990, and 1991 grantees in the following three categories: (1) population density; (2) percentage of population 65 years and older; and (3) racial distribution. First, the 1992 grantees were selected increasingly from areas of lower population density than earlier grantees. Grantees' median county population density dropped 29 percent, from 24.8 persons per square mile in 1989 to 17.6 persons per square mile in 1992. Second, the percentage of the population that was elderly was lower among 1992 grantees (13.9 percent) than among the 1989, 1990, and 1990 grantees (14.4 percent, 15 percent, and 15.4 percent, respectively). And third, the

TABLE V.7

COMPARISON OF THE AREA CHARACTERISTICS OF THE 1989,
1990, 1991 AND 1992 GRANTEES
(At Time of Award)

	1989	1990	1991	1992
Number of Grantees	184	212	187	163
Average First-Year Funding Amount	\$44,861.10	\$44,212.18	\$43,708.22	\$42,059.26
Percent Distribution by Region				
Northeast	8 %	3 %	6 %	5 %
Midwest	40 %	46 %	47 %	43 %
South	34 %	33 %	29 %	23 %
West	19 %	18 %	18 %	29 %
Number of Consortia Projects	11	16	14	10
Percentage of Grantees in Consortia	21 %	29 %	26 %	28 %
Area Characteristics (Medians)				
Population Density Per Square Mile ^a	24.8	21.8	16.6	17.6
Percentage of Population 65 Years and Older ^b	14.4 %	15.0 %	15.4 %	13.9 %
Percentage of Population Black ^b	6.4 %	4.7 %	4.5 %	4.0 %
Annual Per Capita Income ^c	\$11,271	\$11,441	\$11,722	\$11,515
5-Year Infant Mortality Rate Per 1,000 Live Births ^d	10.3	10.5	10.2	10.5
Number of Hospital Beds Per 1,000 Population ^e	4.9	4.2	4.9	4.7
Percentage of Hospitals in Counties with Full or Partial HPSA Designation (1987)	58 %	48 %	53 %	55 %

NOTE: Percentages may not add to 100 percent due to rounding error.

^a1987 population estimates divided by land area in square miles.

^b1980 Census data.

^c1986 per capita data from the 1969-1986 Local Area Personnel Income Tape, U.S. Department of Commerce, Bureau of Economic Analysis.

^d1981-1985, National Center for Health Statistics.

^eFrom 1987 County Hospital file; population estimate (1987) from U.S. Bureau of Census.

percent of blacks has decreased since the beginning of the program, from 6.4 percent in 1989 to 4.0 percent in 1992--a 37 percent decrease. These differences can be explained partly by the shift in the distribution of grantees from the Northeast and South census regions to the Midwest and West census regions.

The average amount awarded for the first year of the 1992 grantees (\$42,059) was lower than that of the 1991 grantees (\$43,708). This decrease can be partly explained by the larger proportion of 1992 grantees that were part of consortia applying for and winning smaller amounts.

The large increase in the percentage of grantees in funded consortium projects between 1989 and 1990 was maintained in 1992 even though the number of funded consortia projects was lower in 1992 than in all the previous years. The percent of grantees in consortia jumped from 21 percent to 29 percent between 1989 and 1990. In 1992, the percentage of grantees in consortia remained constant at 28 percent.

VI. ACTIVITIES DURING THE NEXT 6 MONTHS

A. MONITORING

Currently there are three waves of grantees: those that received grants in 1990, 1991, and 1992.¹ The 1992 grantees will be asked to submit their first monitoring report in February 1993. These grantees will report on their project start-up activities and staffing, beds, finances, and other characteristics at the time of grant award. Monitoring of the 1990 and 1991 grantees will continue, with these hospitals reporting on their grant activities over the 6-month periods ending March 1993 and December 1992, respectively. Telephone interviews of selected 1991 and 1992 grantees will also take place during the next 6 months.

B. REPORTS TO CONGRESS

The Eighth Semi-Annual Report to Congress will be submitted in June 1993. This semi-annual report will once again describe the progress made by the three waves of grantees in the 6 months since they last reported, based on hospital self-reports and targeted telephone interviews.

¹Hospitals receiving grants in 1989 completed their projects in September 1992. A final report on the impact of the grant program on these hospitals is being issued separately.

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APPENDIX A

1990, 1991, AND 1992 GRANTEES CONTINUING IN THE RURAL HEALTH CARE TRANSITION GRANTS PROGRAM

APPENDIX A

HOSPITALS CONTINUING IN THE RURAL HEALTH CARE TRANSITION
GRANTS PROGRAM AS OF 6/30/92, BY STATE AND YEAR OF AWARD

	1990 Grantees	1991 Grantees	1992 Grantees
AL	Vaughan Regional Medical Center	Cullman Medical Center Baptist Medical Center, Cherokee Valley Medical Center Bullock County Hospital, Coosa	Randolph County Hospital Wedowee Hospital
AK		Seward General Hospital	Central Peninsula General Hospital Valley Hospital
AR	Booneville City Hospital Carroll General Hospital Lawrence Memorial Hospital Yell County Hospital	Cleburne Memorial Hospital Helena Regional Medical Center	McGehee Desha County Hospital
AZ	Carondelet Holy Cross Hospital Havasui Samaritan Regional Hospital Navapache Hospital Page Hospital	White Mountain Communities Hospital Southeast Arizona Medical Center	Benson Hospital Lewis R. Pyle Memorial Hospital Mt. Graham Community Hospital Sage Memorial Hospital
CA	Mayers Memorial Hospital Needles-Desert Communities Hospital Plumas District Hospital Southern Inyo Hospital Surprise Valley Community Hospital	Colusa Community Hospital Tuolumne General Hospital Southern Humboldt Community Hospital Redwood Memorial Hospital	Mendocino Coast District Hospital
CO	Gunnison Valley Hospital St. Vincent General Hospital	Sterling Regional MedCenter Kremmling Memorial Hospital District Mt. San Rafael Hospital	Cheyenne County Hospital Colorado Plains Medical Center Conejos County Hospital East Morgan County Hospital Haxtun Hospital District Kit Carson County Memorial Hospital Lincoln Community Hospital Melissa Memorial Hospital Sedgwick County Memorial Hospital
FL	Memorial Hospital - Flagler	Northwest Florida Community Hospital Campbellton-Graceville Hospital	Hamilton County Memorial Hospital

APPENDIX A (continued)

	1990 Grantees	1991 Grantees	1992 Grantees
GA	Brooks County Hospital Charlton Memorial Hospital Grady General Hospital Mitchell County Hospital		Meadows Memorial Hospital Ridgecrest Hospital Taylor Regional Hospital
ID	Benewah Community Hospital Gooding County Memorial Hospital Shoshone Medical Center Teton Valley Hospital	Clearwater Valley Hospital Boundary County Community Hospital and Nursing Home McCall Memorial District Hospital Oneida County Hospital	Franklin County Medical Center Lost Rivers District Hospital Wood River Medical Center
IL	Carmi Township Hospital Gibson Community Hospital Hoopeston Community Memorial Hospital Sarah D. Culbertson Memorial Hospital	Edward A. Ullaut Memorial Hospital Hardin County General Hospital	Crawford Memorial Hospital Galena-Stauss Hospital Graham Hospital Association Harrisburg Medical Center Lawrence County Memorial Hospital Thomas H. Boyd Memorial Hospital
IN		Perry County Memorial Hospital	Rush Memorial Hospital
IA	Baum-Harmon Memorial Hospital Belmond Community Hospital Buena Vista County Hospital Burgess Memorial Hospital Eldora Regional Medical Center Ellsworth Municipal Hospital Franklin General Hospital Green County Medical Center Grinnell General Hospital Guttenberg Municipal Hospital Hancock County Memorial Hospital Howard County Hospital Kossuth County Hospital Lucas County Health Center Marengo Memorial Hospital Myrtue Memorial Hospital Northwest Iowa Health Center Osceola Community Hospital Story City Memorial Hospital	Mercy Hospital Story County Hospital Humboldt County Memorial Hospital Cass County Memorial Hospital Veterans Memorial Hospital Anamosa Community Hospital Virginia Gay Hospital Van Buren County Hospital Winneshiek County Memorial Hospital Grundy County Memorial Hospital	Central Community Hospital Community Memorial Hospital Guthrie County Hospital Jackson County Public Hospital Montgomery County Memorial Hospital Skiff Medical Center

APPENDIX A (continued)

	1990 Grantees	1991 Grantees	1992 Grantees
KS	Clara Barton Hospital Graham County Hospital Hamilton County Hospital Kearny County Hospital Lindsborg Community Hospital Sabetha Community Hospital	Mercy Hospital of Independence St. Johns Hospital Coffey County Hospital Anderson County Hospital Community Memorial Hospital Arkansas City Memorial Hospital Geary Community Hospital Memorial Hospital Association	Allen County Hospital Edwards County Hospital Northwest Kansas Regional Medical Centers St. Joseph Hospital The Saint Mary Hospital William Newton Memorial Hospital
KY	Berea Hospital Marshall County Hospital and Long Term Care Monroe County Medical Center	Twin Lakes Regional Medical Center Ohio County Hospital Corporation	Muhlenberg Community Hospital Our Lady Of The Way Hospital
LA	South Cameron Memorial Hospital West Feliciana Parish Hospital	Abrom Kaplan Memorial Hospital	Allen Parish Hospital Assumption General Hospital Pointe Coupee General Hospital St. James Parish Hospital West Carroll Memorial Hospital
ME	C.A. Dean Memorial Hospital Cary Medical Center	Down East Community Hospital Maine Coast Memorial Hospital Miles Memorial Hospital St. Andrew's Hospital	Mayo Regional Hospital Waldo County General Hospital
MD	McCreedy Memorial Hospital		Garrett County Memorial Hospital
MI	Carson City Hospital Deckerville Community Hospital Gerber Memorial Hospital Kalkaska Memorial Health Center Kelsey Memorial Hospital Marlette Community Hospital McKenzie Memorial Hospital Mid-Michigan Regional Medical Center Sheridan Community Hospital United Memorial Hospital	Mid-Michigan Regional Medical Center Calumet Public Hospital	Baraga County Memorial Hospital Kelsey Memorial Hospital Portage View Hospital Standish Community Hospital

APPENDIX A (continued)

	1990 Grantees	1991 Grantees	1992 Grantees
MN	<p>Canby Community Hospital District #1</p> <p>Fairmont Community Hospital</p> <p>Holy Trinity Hospital</p> <p>Iasca Medical Center</p> <p>Millie Lacs Hospital</p> <p>Minnesota Valley Memorial Hospital</p> <p>North Pine Area Hospital</p> <p>Sioux Valley Hospital</p> <p>St. Peter Community Hospital and Health Care</p> <p>Tri-County Hospital</p> <p>United District Hospital and Home</p>	<p>Granite Falls Municipal Hospital</p> <p>Cuyuna Regional Medical Center</p> <p>Hutchinson Community Hospital</p> <p>Lakeview Memorial Hospital and Home</p> <p>Arnold Memorial Hospital</p> <p>Luverne Community Hospital</p> <p>St. Gabriel's Hospital</p> <p>ADA Municipal Hospital</p>	<p>Cannon Falls Community Hospital</p> <p>Community Memorial Hospital</p> <p>Cook County North Shore Hospital</p> <p>Grant County Hospital</p> <p>Harmony Community Hospital Association</p> <p>Hendricks Community Hospital</p> <p>Kanabec Hospital</p> <p>Lake City Hospital</p> <p>Madelia Community Hospital</p> <p>Northwest Medical Center</p> <p>Roseau Area Hospital District</p> <p>Zumbrota Hospital</p>
MS	<p>Choctaw County Medical Center</p> <p>Montfort Jones Memorial Hospital</p> <p>Tallahatchie General Hospital</p> <p>Tyler Holmes Memorial Hospital</p>	<p>Lawrence County Hospital</p> <p>King's Daughters Hospital</p> <p>Hillcrest Hospital</p> <p>George County Hospital</p>	<p>North Sunflower County Hospital</p>
MO	<p>John Fitzgibbon Memorial Hospital</p> <p>Nevada City Hospital</p> <p>Ripley County Memorial Hospital</p> <p>St. Vincent's Hospital</p>	<p>Pemiscot Memorial Hospital</p> <p>Albert M. Keller Memorial Hospital</p> <p>Gentry County Memorial Hospital</p> <p>Cooper County Memorial Hospital</p> <p>Sullivan County Memorial Hospital</p> <p>Scotland County Memorial Hospital</p> <p>St. Francis Hospital</p>	<p>Bonne Terre Hospital</p> <p>Citizens Memorial Hospital</p> <p>Community Hospital</p> <p>Salem Memorial District Hospital</p> <p>St. Francis Hospital</p>
MT	<p>Barrett Memorial Hospital</p> <p>Central Montana Medical Center</p> <p>Holy Rosary Hospital</p> <p>Marcus Daly Memorial Hospital</p>	<p>Community Hospital of Anaconda</p> <p>Trinity Hospital</p> <p>Pondera Medical Center</p> <p>Big Horn County Memorial Hospital</p> <p>McCone County Hospital</p> <p>Prairie Community Hospital</p> <p>Glendive Medical Center</p>	<p>Community Memorial Hospital</p> <p>Community Hospital</p> <p>Dahl Memorial Healthcare Association</p> <p>Daniels Memorial Hospital</p> <p>Frances Mahon Deaconess Hospital</p> <p>Madison Valley Hospital</p> <p>North Valley Hospital</p> <p>Phillips County Hospital</p> <p>Roosevelt Memorial Hospital</p> <p>Sheridan Memorial Hospital</p> <p>St. John's Lutheran Hospital</p> <p>Stillwater Community Hospital</p>

APPENDIX A (continued)

	1990 Grantees	1991 Grantees	1992 Grantees
NE	Annie Jeffrey Memorial County Hospital Brookstone Memorial Nuckolls County Hospital Butler County Hospital Cheyenne County Hospital Association Community Hospital Garden County Hospital and Nursing Home Jefferson County Memorial Hospital	Sargent District Hospital Valley County Hospital Cambridge Memorial Hospital and Health Center Pawnee County Memorial Hospital Perkins County Community Hospital Lundberg Memorial Hospital Antelope Memorial Hospital Brown County Hospital Cherry County Hospital Niobrara Valley Hospital Osmond General Hospital Plainview Public Hospital Rock County Hospital St. Anthony's Hospital West Holt Memorial Hospital	Antelope Memorial Hospital Brown County Hospital Chadron Community Hospital Cherry County Hospital Gordon Memorial Hospital Gothenburg Memorial Hospital Kimball County Hospital Lundberg Memorial Hospital Niobrara Valley Hospital Osmond General Hospital Rock County Hospital St. Anthony's Hospital West Holt Memorial Hospital
NV	Battle Mountain General Hospital Elko General Hospital Grover C. Dils Medical Center Mt. Grant General Hospital Nye Regional Medical Center William Bee Ririe Hospital		Battle Mountain General Hospital Churchill Community Hospital Humboldt General Hospital Mt. Grant General Hospital Nye Regional Medical Center Pershing General Hospital South Lyon Medical Center
NH	The Memorial Hospital	Littleton Regional Hospital Weeks Memorial Hospital	Upper Connecticut Valley Hospital
NM	Sierra Vista Hospital	Nor-Lea General Hospital Gila Regional Medical Center Mimbres Memorial Hospital	Artesia General Hospital Socorro General Hospital
NY	Soldiers and Sailors Memorial Hospital	Canton-Potsdam Hospital Margaretville Memorial Hospital Community General Hospital-Sullivan County	Elizabethtown Community Hospital Jones Memorial Hospital
NC	Allegheny County Memorial Hospital Montgomery Memorial Hospital Sloop Memorial Hospital	Charles A. Cannon Jr. Memorial Hospital Blue Ridge Hospital System Anson County Hospital Blowing Rock Hospital	Sea Level Hospital

APPENDIX A (continued)

	1990 Grantees	1991 Grantees	1992 Grantees
ND	Community Hospital in Nelson County Griggs County Hospital Jacobson Memorial Hospital Care Center McKenzie County Memorial Hospital St. Joseph's Hospital and Health Center	Presentation Medical Center St. Andrew's Hospital Kenmare Community Hospital St. Aloisius' Hospital Renville Bottineau Memorial Hospital Ashley Medical Center Wishek Community Hospital Garrison Memorial Hospital Hillsboro Community Hospital Tioga Medical Center St. Luke's Hospital Stanley Community Hospital	Community Memorial Hospital Heart Of America Medical Center Richardson Health Center West River Regional Medical Center
OH	Adams County Hospital Defiance Hospital Joel Pomerene Memorial Hospital Mercy Hospital of Tiffin, Ohio	Oak Hill Community Medical Center	Fostoria Community Hospital
OK	Blackwell Regional Hospital Cimarron Memorial Hospital Craig General Hospital Creek Nation Community Hospital Cushing Regional Hospital Grove General Hospital Jefferson County Hospital Memorial Hospital OMH Medical Center Pauls Valley General Hospital	Beaver County Memorial Hospital Cleveland Area Hospital Watonga Municipal Hospital Woodward Hospital and Health Center Holdenville General Hospital Harper County Community Hospital	Alfalfa County Hospital Carnegie Tri-County Municipal Hospital Perry Memorial Hospital
OR	Hood River Memorial Hospital Mid-Columbia Medical Center Pacific Communities Hospital Pioneer Memorial Hospital	Lebanon Community Hospital Mercy Forest Glen	Grande Ronde Hospital Pioneer Memorial Hospital
PA	Barnes-Kasson County Hospital	Greene County Memorial Hospital	Troy Community Hospital
PR			Castaner General Hospital
SC	The Byerly Hospital	Clarendon Memorial Hospital	Low Country General Hospital

APPENDIX A (continued)

	1990 Grantees	1991 Grantees	1992 Grantees
SD	Belle Fourche Health Care Center Bennett County Community Hospital Community Memorial Hospital Custer Community Hospital Faulk County Memorial Hospital Five Counties Hospital Hand County Memorial Hospital Hans P. Peterson Memorial Hospital Holy Infant Hospital Sturgis Community Health Care Center	Flandreau Municipal Hospital DeSmet Memorial Hospital Southern Hills General Hospital St. Benedict's Hospital St. Michael's Hospital Baptist Hospital Community Memorial Hospital Community Memorial Hospital Dakota Hospital Freeman Community Hospital Landmann Jungman Memorial Hospital Pioneer Memorial Hospital	Belle Fourche Health Care Center Bennett County Hospital Estelline Community Hospital Gettysburg Memorial Hospital St. Mary's Healthcare Center
TN	Baptist Hospital of Roane County Cocke County Baptist Hospital	Lewis Community Hospital Hickman County Health Services Perry Memorial Hospital	Coffee Medical Center Copper Basin Medical Center Decatur County General Hospital Jellico Community Hospital
TX	Big Bend Regional Medical Center Bowie Memorial Hospital Culberson County Hospital Dallam-Hartley Hospital District Eagle Lake Community Hospital Hutchison County - Golden Plains Community Hospital Jackson County Hospital District Moore County Hospital District Parmer County Community Hospital Pecos County Memorial Hospital Reeves County Hospital Stonewall Memorial Hospital Ward Memorial Hospital Yoakum County	Harris Methodist, Mexia DeLeon Hospital District Chillicothe Hospital District Stephens Memorial Hospital Harris Methodist, Erath County Knox County Hospital District Crockett County Hospital Pecos County General Hospital Yoakum Community Hospital Hill County Memorial Hospital Lee Memorial Hospital Central Texas Hospital Hall County Hospital Panola General Hospital Medina Community Hospital	Colorado-Fayette Medical Center Concho County Hospital Crosbyton Clinic Hospital Dimmit County Memorial Hospital East Texas Medical Center-Mt. Vernon Eastland Memorial Hospital Jasper Memorial Hospital Memorial Hospital Olney Hamilton Hospital District Uvalde Memorial Hospital
UT	Duchesne County Hospital	Central Valley Medical Center Gunnison Valley Hospital	Garfield Memorial Hospital
VT	Grace Cottage Hospital		Northeastern Vermont Regional Hospital
VA	Southampton Memorial Hospital	Bath County Community Hospital	Dickenson County Medical Center

APPENDIX A (continued)

	1990 Grantees	1991 Grantees	1992 Grantees
WA	Cascade Medical Center Columbia Basin Hospital Dayton General Hospital Tri-State Memorial Hospital	Pullman Memorial Hospital Odessa Memorial Hospital Quincy Valley Hospital	Island Hospital
WV	Broadus Hospital Association Summers County Hospital	Sistersville General Hospital Grant Memorial Hospital Webster County Memorial Hospital	Welch Emergency Hospital
WI	Berlin Memorial Hospital Chippewa Valley Hospital Memorial Hospital Prairie du Chien Memorial Hospital St. Joseph's Memorial Hospital	Osseo Area Municipal Hospital Langlade Memorial Hospital Sauk Prairie Memorial Hospital Door County Memorial Hospital	Eagle River Memorial Hospital Lancaster Memorial Hospital Memorial Hospital Of Iowa County Reedsburg Memorial Hospital Sacred Heart Hospital Southwest Health Center Tri-County Memorial Hospital
WY	Community Hospital	Ivinson Memorial Hospital	Campbell County Memorial Hospital Crook County Memorial Hospital Johnson County Memorial Hospital Memorial Hospital Of Sweetwater County

APPENDIX B

1992 RURAL HEALTH CARE TRANSITION GRANT WINNERS LISTED BY STATE AND FIRST-YEAR FUNDING

FUNDS AWARDED UNDER GRANT PROGRAM FOR
RURAL HEALTH CARE TRANSITION,
1992

State	Hospital Name	First-Year Funding
AL	Randolph County Hospital	50,000
AL	Wedowee Hospital	50,000
AK	Central Peninsula General Hospital	50,000
AK	Valley Hospital	50,000
AZ	Benson Hospital	50,000
AZ	Lewis R. Pyle Memorial Hospital	50,000
AZ	Mt. Graham Community Hospital	50,000
AZ	Sage Memorial Hospital	50,000
AR	McGehee Desha County Hospital	49,016
CA	Mendocino Coast District Hospital	36,806
CO	Cheyenne County Hospital	10,000
CO	Colorado Plains Medical Center	10,000
CO	Conejos County Hospital	48,950
CO	East Morgan County Hospital	10,000
CO	Haxtun Hospital District	50,000
CO	Kit Carson County Memorial Hospital	10,000
CO	Lincoln Community Hospital	10,000
CO	Melissa Memorial Hospital	10,000
CO	Sedgwick County Memorial Hospital	10,000
FL	Hamilton County Memorial Hospital	50,000
GA	Meadows Memorial Hospital	50,000
GA	Ridgecrest Hospital	50,000
GA	Taylor Regional Hospital	50,000
ID	Franklin County Medical Center	36,600
ID	Lost Rivers District Hospital	50,000
ID	Wood River Medical Center	50,000

State	Hospital Name	First-Year Funding
IL	Crawford Memorial Hospital	49,026
IL	Galena-Stauss Hospital	45,554
IL	Graham Hospital Association	50,000
IL	Harrisburg Medical Center	50,000
IL	Lawrence County Memorial Hospital	50,000
IL	Thomas H. Boyd Memorial Hospital	50,000
IN	Rush Memorial Hospital	50,000
IA	Central Community Hospital	49,500
IA	Community Memorial Hospital	39,000
IA	Guthrie County Hospital	28,900
IA	Jackson County Public Hospital	50,000
IA	Montgomery County Memorial Hospital	50,000
IA	Skiff Medical Center	50,000
KS	Allen County Hospital	50,000
KS	Edwards County Hospital	42,448
KS	Northwest Kansas Regional Medical Centers	45,617
KS	St. Joseph Hospital	50,000
KS	The Saint Mary Hospital	50,000
KS	William Newton Memorial Hospital	50,000
KY	Muhlenberg Community Hospital	50,000
KY	Our Lady Of The Way Hospital	50,000
LA	Allen Parish Hospital	50,000
LA	Assumption General Hospital	50,000
LA	Pointe Coupee General Hospital	50,000
LA	St. James Parish Hospital	50,000
LA	West Carroll Memorial Hospital	50,000
ME	Mayo Regional Hospital	50,000
ME	Waldo County General Hospital	50,000
MD	Garrett County Memorial Hospital	50,000
MI	Baraga County Memorial Hospital	50,000
MI	Kelsey Memorial Hospital	50,000
MI	Portage View Hospital	50,000
MI	Standish Community Hospital	50,000

State	Hospital Name	First-Year Funding
MN	Cannon Falls Community Hospital	49,500
MN	Community Memorial Hospital	50,000
MN	Cook County North Shore Hospital	50,000
MN	Grant County Hospital	50,000
MN	Harmony Community Hospital Association	50,000
MN	Hendricks Community Hospital	49,400
MN	Kanabec Hospital	50,000
MN	Lake City Hospital	49,800
MN	Madelia Community Hospital	50,000
MN	Northwest Medical Center	49,905
MN	Roseau Area Hospital District	50,000
MN	Zumbrota Hospital	50,000
MS	North Sunflower County Hospital	50,000
MO	Bonne Terre Hospital	47,002
MO	Citizens Memorial Hospital	50,000
MO	Community Hospital	50,000
MO	Salem Memorial District Hospital	50,000
MO	St. Francis Hospital	50,000
MT	Community Memorial Hospital	46,808
MT	Community Hospital	50,000
MT	Dahl Memorial Healthcare Association	45,207
MT	Daniels Memorial Hospital	5,028
MT	Frances Mahon Deaconess Hospital	11,154
MT	Madison Valley Hospital	49,982
MT	North Valley Hospital	49,155
MT	Phillips County Hospital	5,774
MT	Roosevelt Memorial Hospital	48,490
MT	Sheridan Memorial Hospital	2,028
MT	St. John's Lutheran Hospital	50,000
MT	Stillwater Community Hospital	2,230

State	Hospital Name	First-Year Funding
NE	Antelope Memorial Hospital	16,650
NE	Brown County Hospital	16,650
NE	Chadron Community Hospital	5,500
NE	Cherry County Hospital	16,650
NE	Gordon Memorial Hospital	5,500
NE	Gothenburg Memorial Hospital	49,500
NE	Kimball County Hospital	50,000
NE	Lundberg Memorial Hospital	16,650
NE	Niobrara Valley Hospital	16,650
NE	Osmond General Hospital	42,000
NE	Rock County Hospital	16,650
NE	St. Anthony's Hospital	16,650
NE	West Holt Memorial Hospital	16,650
NV	Battle Mountain General Hospital	25,000
NV	Churchill Community Hospital	25,000
NV	Humboldt General Hospital	50,000
NV	Mt. Grant General Hospital	20,000
NV	Nye Regional Medical Center	20,000
NV	Pershing General Hospital	50,000
NV	South Lyon Medical Center	50,000
NH	Upper Connecticut Valley Hospital	50,000
NM	Artesia General Hospital	47,650
NM	Socorro General Hospital	49,931
NY	Elizabethtown Community Hospital	50,000
NY	Jones Memorial Hospital	49,928
NC	Sea Level Hospital	50,000
ND	Community Memorial Hospital	50,000
ND	Heart Of America Medical Center	50,000
ND	Richardton Health Center	50,000
ND	West River Regional Medical Center	50,000
OH	Fostoria Community Hospital	46,900
OK	Alfalfa County Hospital	50,000
OK	Carnegie Tri-County Municipal Hospital	50,000
OK	Perry Memorial Hospital	50,000

State	Hospital Name	First-Year Funding
OR	Grande Ronde Hospital	49,995
OR	Pioneer Memorial Hospital	50,000
PA	Troy Community Hospital	50,000
PR	Castaner General Hospital	50,000
SC	Low Country General Hospital	50,000
SD	Belle Fourche Health Care Center	5,500
SD	Bennett County Hospital	5,500
SD	Estelline Community Hospital	50,000
SD	Gettysburg Memorial Hospital	50,000
SD	St. Mary's Healthcare Center	50,000
TN	Coffee Medical Center	49,250
TN	Copper Basin Medical Center	49,750
TN	Decatur County General Hospital	49,500
TN	Jellico Community Hospital	46,517
TX	Colorado-Fayette Medical Center	50,000
TX	Concho County Hospital	50,000
TX	Crosbyton Clinic Hospital	50,000
TX	Dimmit County Memorial Hospital	50,000
TX	East Texas Medical Center-Mt. Vernon	50,000
TX	Eastland Memorial Hospital	49,098
TX	Jasper Memorial Hospital	50,000
TX	Memorial Hospital	50,000
TX	Olney Hamilton Hospital District	50,000
TX	Uvalde Memorial Hospital	50,000
UT	Garfield Memorial Hospital	50,000
VT	Northeastern Vermont Regional Hospital	50,000
VA	Dickenson County Medical Center	40,037
WA	Island Hospital	50,000
WV	Welch Emergency Hospital	50,000

State	Hospital Name	First-Year Funding
WI	Eagle River Memorial Hospital	50,000
WI	Lancaster Memorial Hospital	50,000
WI	Memorial Hospital Of Iowa County	50,000
WI	Reedsburg Memorial Hospital	50,000
WI	Sacred Heart Hospital	30,000
WI	Southwest Health Center	50,000
WI	Tri-County Memorial Hospital	50,000
WY	Campbell County Memorial Hospital	50,000
WY	Crook County Memorial Hospital	49,995
WY	Johnson County Memorial Hospital	5,500
WY	Memorial Hospital Of Sweetwater County	50,000

NOTE: This table was prepared by National Biosystems.

APPENDIX C
SCORE ADJUSTMENT PROCESS

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SCORE ADJUSTMENT PROCESS

This appendix documents how scores of 1992 grant applications were adjusted to account for differences in the panels' scoring of the applications, and how the adjusted scores were rescaled for easier interpretation. This work was done under Federal contract by National Biosystems.

To adjust the scores, the mean and standard deviation of the total scores for all proposals reviewed by each panel were calculated. Next, the panel mean was subtracted from each individual score, and this difference was divided by the panel standard deviation. Define X_{ip} as the individual proposal score assigned by the panel, X_p as the mean of all scores X_{ip} for that panel, and S_p as the standard deviation of the panel mean. The adjusted score (T_{ip}) is then calculated as:

$$T_{ip} = (X_{ip} - X_p)/S_p.$$

To rescale the adjusted scores so that they are easier to interpret, the maximum adjusted score and minimum adjusted score across all applicants were first identified. Define T_{\max} as the maximum score, and T_{\min} as the minimum. The rescaled score is then calculated as:

$$Score = \frac{T_i - T_{\min}}{T_{\max} - T_{\min}} * 100.$$

This rescaling process results in scores that range from 0 to 100, the same as the original range of the panel-assigned scores. The process maintains the distribution and ranking of the adjusted scores.

APPENDIX D
AREA CHARACTERISTICS ANALYSIS

APPENDIX D

AREA CHARACTERISTICS ANALYSIS

A. IDENTIFYING THE SAMPLE

To make the comparisons presented in Chapter V, we defined four groups of hospitals: (1) all eligible hospitals; (2) all applicant hospitals; (3) funded hospitals; and (4) non-funded hospitals. In 1992, HCFA determined the set of eligible hospitals to be 1,960 (reported in Table V.1).

HCFA received 310 proposals for RHCT grants in 1992 and selected 127 proposals to receive grant funding. Unlike in past years, no hospital received more than one grant. There were 183 non-funded proposals.

B. DATA SOURCES FOR AREA CHARACTERISTICS ANALYSIS

We obtained the data used to analyze the area characteristics of grant applicants and eligible hospitals from the Area Resource File (ARF, March 1989 version). Hospitals were matched to county characteristics contained in the ARF by the Federal Information Processing Standard code of the county in which the hospital is located.

The ARF data set did not match exactly to the hospital data set for two reasons. First, ARF does not contain data on Alaskan counties. Hence, the Alaskan hospitals were matched on a statewide basis. Three of the 18 eligible hospitals in Alaska applied for grants, and two won grants. Second, ARF does not include data on U.S. territories. Hence, the eligible

Puerto Rican hospitals were not included in the analysis. One of the three eligible hospitals in Puerto Rico applied for and won a grant in 1992.

C. PER POPULATION ESTIMATES

In a number of instances in Chapter V, information is presented on a "per population" basis. The population estimates used as the denominator in these variables are for the same year as the numerator variable.

D. COMPARABILITY ACROSS GRANT YEARS

To maintain comparability across grant years, we used the same data for all comparisons, even when more recent data were available for the 1992 grantees. In some instances, area characteristics data are quite dated.



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